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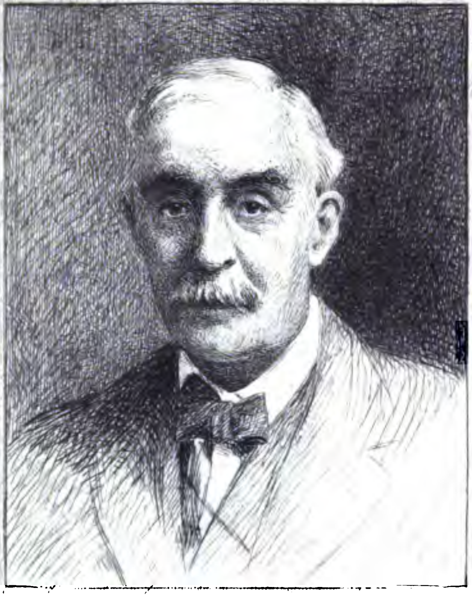

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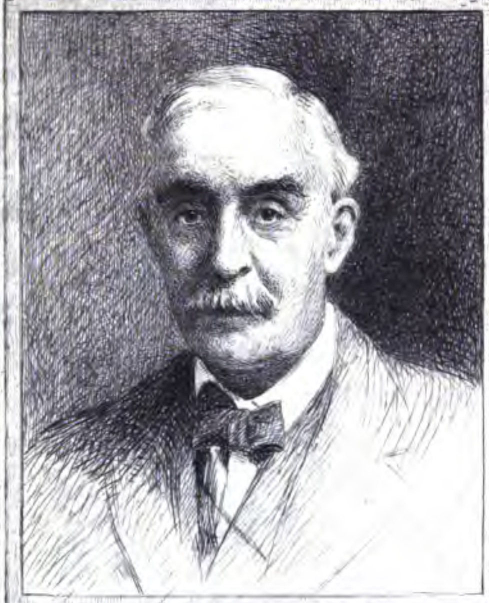

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THE ELEMENTS

OF

MENTAL AND MORAL SCIENCE

AS APPLIED TO TEACHING.

BY

William Chatterton

W. C. COUPLAND, M.A., D.Sc.,

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PREFACE.

THE design of this booklet is to familiarize teachers with the idea of the close relationship subsisting between Science of Mind in general and Science of Education in particular. In so brief a treatment there is no pretence, of course, of surveying the entire field; in fact, I have merely written a short essay, calling attention, in my own way, to certain aspects of the subject, in the hope of leading some with elevated conceptions of the scholastic profession to engage in a thorough study of the Science and Philosophy of Education.

The Theory of Education is a subject of vast scope. If any danger awaits it in the near future it will come from a desire to narrow its range too strictly. The Theory cannot afford to decline aid from very many quarters; and the experimental psychologist, the moralist, the sociologist, even the philosopher proper, may further its development.

For an expanded introduction and manual the student need be at no loss, Dr. Sully's 'Teacher's Handbook of Psychology' being an excellent guide, by a lecturer of considerable experience. A verification of the references contained in the same work will afford material for mature reflection.

W. C. C.

LONDON, *December 10, 1888.*

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THE ELEMENTS
OF
MENTAL AND MORAL SCIENCE

AS APPLIED TO TEACHING.

I.—INTRODUCTION.

THAT the foundation of the science and art of Education must be laid in Psychology is one of those vital truths which obtain only tardy recognition for the reason that an earlier perception of their importance would have been attended by no practical result. The discernment of law in Mind is an achievement of yesterday, and students of this mysterious region are even now but dimly feeling their way through a maze of bewildering complexity. It is not strange, therefore, that theorizers on the methods appropriate to youthful education should have neglected the observation of the mental phenomena, either in the consummate form of a civilized consciousness, or in the historic evolution which has made that form possible. It is only, indeed, within the last fifty years that the thoughts of scientific thinkers have been turned in this direction; and the idea is still so novel that practical teachers in this country can find few aids in literature to deepen their sense of its importance, or to familiarize them with the principle in its actual development.

A very few words will suffice to show the value of the principle itself. The mind of a human being, no less than the body, is a piece of Nature. It has its antecedents and native tendencies, propensities, and untaught yearnings. It might be pardonable in an age un-accustomed to rigid scientific observation, and unprovided with the results of comparative research, to imagine that, while the stars seemed to hold their fixed courses, and animals appeared to repeat the same monotonous round of fixed habit from generation to generation, the mind of Man rose above the order of the world, and being plastic to a practically indefinite extent, that it lay in the power of an unwearied instructor, or a strenuous self-will, to enable any one of its embodiments to make unlimited intellectual conquests, or to take rank with the few moral heroes whose deeds illuminate the pages of history. Proofs pour in thick and fast nowadays, however, to dissipate a belief at once so flattering to human self-sufficiency and so fatal to all true spiritual progress. An unreal picture of individual possibilities may, in certain periods of depression, act as a spiritual tonic, affording the strength to cast off a dangerous self-distrust; but a clear cognition of the permanent causes of our strength and weakness is both a more reliable guide and a more excellent safeguard.

Henceforth the arts of education must assume that the ground-plan of the future mind is pre-determined in the original constitution. There is a physical *set*, as there is a physical build, which may be favoured or

thwarted, but which cannot be largely deviated from, although it may require a tutor of extraordinary prescience to foresee the career of the future man. We may, if we please, resolve this constitution into two parts—the one expressing the result of long-continued habit, what the old metaphysician would have termed the 'essence' of man, and the modern biologist describes as the mind of the race; the other summarizing the influence of proximate progenitors. This is, of course, a factitious simplification, though if the case were really no more complex than that, the practical psychologist would have enough work on his hands to harmonize the broad and narrow streams of tendency; but when we remember that the antecedents of each individual mind are absolutely continuous and regressively indefinite in extent, we shall not wonder that the science of mind is still in so elementary a condition, or that human art, which cannot afford to wait upon the slow result of scientific analysis, should proceed swiftly to rules of conduct which later theory will utterly condemn.

The most serious initial difficulty is how to distinguish with certainty between those portions of the psychical fabric which are to all intents and purposes unalterable, and those later accretions which are relatively modifiable, and in the latter to faithfully graduate the relativity. For it would be alike unreasonable to attempt to change a primal instinct, and to treat a certain vice as beyond the reach of moral therapeutics, because it exhibits an ancestral taint. Some sagacity, again, will be needed to distinguish—in the awkward efforts of unexercised intellect—

between the irremediable inaptitude of an unpossessed faculty, and the cerebral immaturity which merely retards what will hereafter be a splendid development. These are some samples of the puzzles which await the instructor. It would be folly to ignore or underrate them. They must be admitted in all their force. But the moral to be drawn from their existence is not that of despair or evasion, but a profounder conviction that real aid must come from a deeper study of the human mind, above all in its comparative aspect. The derivative cannot advance faster than the parent science, and the laws of mind are only slowly emerging out of physical and metaphysical chaos. As my concern in these chapters will be directly with the practical teacher, I shall not allow myself to wander from the beaten path of ascertained truths, but limit myself to an indication of those mental conditions which help to form the phenomena of our familiar consciousness, accompanied by such applications as are implied in a conscious direction of the mental processes, with a view to realizing the ideal end of full development of faculty.

Before we proceed to particulars, however, we must first form a correct idea of the kind of object it is whose constitution and mode of operation we are proposing to treat. This object is the human mind. The unfolding and discipline of the human mind is the purport of education. But what *is* the human mind? Does the popular phraseology correctly or adequately describe it? We hear talk of the 'faculties of the mind,' as if it were a *thing* parcelled out into provinces, an engine with unlike parts, which may be

variously active or quiescent. Again, there is no more popular presumption than that mind is not body, that it is a self-enclosed sphere, open only to the gaze of an individual self, whose kinship with other individual entities is problematical, or matter of inference. The body is also sometimes said to be the mind's 'slave,' at other times its 'master.'

Now, all these varieties of expression are inexact, even when not positively misleading. They are the outcome of rough-and-ready wit, and if taken up without explanation into the scientific vocabulary will seriously vitiate our conception of the actual phenomena.

The dualism thus supposed of body and mind, if taken in the popular sense, is entirely untenable. The perception that mind is *embodied mind* is the mastery of the psychological alphabet. Scientific psychology may be almost said to date from the recognition of that truth. The assertion involves something very different from the current phrase that body, in whole or part, is Organ of mind. Organ supposes substantial separation. The organ is quite distinct from the authority that wields it. It is a passive instrument of a purpose not its own. But in saying that mind is embodied mind we affirm far more than that; we declare that it and its embodiment are one, that the relation is not that of hand and glove, but of hand and flesh and blood; that he who strikes at the body strikes at the mind, that he who wounds the mind wounds the body. This is no mere hypothesis or possible interpretation of facts. It is demonstrated in every ripple of feeling, in every case of mental pathology.

What becomes, then, of the so-called faculties of the mind if this be so? Where are these faculties, and how shall we effect their distinction? If the mind pulsates in the whole body, although with different energy and evidence according to local conditions, and the dominating centres are impotent without their internuncial connections, qualitative difference being grounded on difference of relation, not of elements, how can we, except by a figure of speech, talk of a faculty of judgment, of reasoning, of remembering? As we shall see presently, this phraseology is the record of a primitive attempt at classification, misdirected by a not unnatural illusion of metaphysics.

But there is something more, of scarcely less importance, to be said in regard to the special nature of mind. Theories of mind surviving in popular speech commit a similar error with regard to distinction of mind from mind, to that which they commit in regard to distinction of mind from body. It is supposed that the mind is or may be isolated from its environment, as it may be detached from its objective aspect. Now, although it must be granted that the reflex action known as self-consciousness is a peculiar phenomenon, usually described in the somewhat inappropriate language of a consciousness immediately visible to introspection, this by no means carries with it the implication that a man's mental self is in fact detachable from other mental selves, or that, in truth, there would be any self at all if it were not for a *social self*, the resources of the individual self ever growing with the growth of the social self. Self-education is a dream;

there is no such possibility. A mind cannot feed upon itself—must, at the least,

> 'Find tongues in trees, books in the running brooks,
> Sermons in stones,'

and recognize its grandest teachers in the throbbing heart and progressive reason of mankind. To neglect or make light of these ultra-personal influences is to obscure our view of the most important reality as yet known to us—the human mind. The mind of each one of us at the present day is so remote from the early mind that we cannot possibly put ourselves back in imagination and realize its ruder type. When we reflect what vast controversies, fraught with momentous consequences, have hinged on the adoption of a mere *word*, we may vainly picture the cavern-like stagnation of a consciousness capable of being influenced by its fellow only through the crude media of gestures and interjections.

Language is undoubtedly the great fabricator of the social consciousness. But my point is that the individual cannot be detached from the social consciousness, that what I am thinking now is not *my* thought, but the thought of a spiritual organism of which my thought is but a transient expression. If it were not so, how could we so readily communicate our ideas to one another? If we did not share in a common psychical nature, how should we be so readily intelligible to one another? It is not the possession of a common language which alone makes this possible. Language is the body of thought and feeling, a body as intimately one with its spirit as the physical body of the psychical mind, but the informing soul must be present or the body is a dead burden.

How vast the range of personal influence becomes in the social state when this is fully realized, it is needless to enlarge upon. It is this great fact which gives such overwhelming importance to the work of the educator, and enables the schoolmaster who is alive to his responsibilities to shape in due measure the destiny of mankind.

I think these preliminary observations regarding the general nature of mind will suffice for placing the student at what appears to me to be the proper point of view for comprehending psychological problems. They are intended to suggest to the reader certain general conceptions which have not yet received the attention they deserve. At the same time, I fear the value of the truths indicated will for some time to come be rather *regulative* than *constitutive*. By this I mean that they must be treated by the teacher mainly as pre-suppositions, possessing a restraining value, preserving from dangerous error, rather than as presenting positive material which can largely influence practice. For the body of psychological doctrine on which to found practical rules we must still go to the abstract analyst, to the descriptive psychologist, who, treating the mind as a separate finished organism, places in our hands the skeins of association, as they present themselves to his individual inspection. But, although this mode of treatment must still be classed as primary, the historical spirit is beginning to make itself felt in psychology, as in all other departments of life, and the hitherto neglected antecedents of the infant

mind are coming to receive their due. Even now Psychogeny is found a potent instrument where simple observation and analysis fail, and we are obtaining glimpses of light where before was darkness and mystery.

Employing such clues as the progress of science offers I shall, in the remaining pages of this introduction, attempt a rapid survey of the field of mental phenomena, presenting these phenomena so far as possible as a connected whole.

In one sense everything which forms a portion of our thought is a mental phenomenon. Although we are tolerably sure that the world is larger than Human Mind, the very conditions of our life prevent us from conceiving that world save in terms of more or less distinct ideation and conscious action. That there are sub-conscious and unconscious states few will deny, but the *notion* of such states is a fact of consciousness, and it is a fallacy of language when we imagine ourselves capable of transcending this limitation of human spiritual existence. But because we are fast bound within the iron bands of consciousness, it does not follow that the limits of representation should be the limits of belief, and accordingly, while the stream of our mental being yields us only the gold of consciousness, that very gold may bear upon it the mark of its transmutation from the common sand of the unconscious. It is, in truth, so. As Shakespeare said:—

> 'Our little life is rounded with a sleep;'

and consciousness is but a gleam of light in the vast ocean of gloom.

The area of unconsciousness is immeasurably vaster than the area of consciousness, not only without the life of humanity, but also within it. We shall never understand the workings of consciousness itself until we come fully to admit that a vast number of operations are ceaselessly going their silent rounds, of which either no trace exists in consciousness, or the effect is perceived without the cause.

The proof of this is found in flashes of so-called inspiration or memory, in incredibly swift perceptions or intuitions, in sudden decisions which pre-suppose long chains of inference and inward struggle. Some psychologists endeavour to resist this evidence. They will have it that as the effect, so must be the cause, that to make the conscious emerge from the unconscious were to violate the maxim *Ex nihilo nihil fit;* and that to find an unconscious antecedent for a conscious consequent is to confuse two eternally opposed spheres of being. But there is nothing self-contradictory in the assertion that existence is larger than mind, and yet the unconscious consubstantial with consciousness. On the contrary the contradiction lies with those who declare we are strictly bound within the fetters of consciousness, and at the same time postulate an unknown substratum as the condition of that consciousness. To argue this point further would lead me too far. We must rest in this place with the verdict of common sense; and the interpretation of experience, which most readily yields practical fruit, is that which conceives the mind as ruminating in stillness over its assimilated material, and from time to time revealing the strange treasures of its wonderful laboratory.

More subtle is the question whether the 'unconscious' operations of mind are in every case rendered possible by previous acts of consciousness, whether aptitudes and immediate intuitions are results of processes of painful volition and arduous reflection, which have lost through repetition their emotional accompaniments, and so have seemed to have fallen out from the psychical into the physical order. Without attempting to decide this question, we may say, that when we seek to fathom the depths of our mental being we find ourselves in presence of a vague spiritual atom, or rather molecule, which we find it hard to describe as either conscious or unconscious. Not wholly unconscious, for it is dimly represented; nor plainly conscious, for it is only the phenomenon at a much later stage that we feel of right deserves that appellation. This elementary molecule has both a passive and an active aspect, at once perceiving and striving, the germinal vesicle from which (duly nourished) is hereafter expanded the rich organism with its myriad ramifications and blendings of thoughts, emotions, and volitions.

My readers will perhaps recognize my meaning more plainly if I translate this psychical elementary molecule into *Sensation;* and I have no objection to do so, if they will also take my meaning that the sensation is not simply a passive state of affection, but an active state of persisting or of striving not to be. On no other terms can I consent to allow of the substitution. The matter is far too vital a one to be rendered uncertain by verbal associations. For the implication is no other than this, that the essence of

Will is an ultimate fact of our mental constitution, no less original than feeling or cognition.

We will take sensation, then, as the undifferentiated matter of mind. Sensations arise in consequence of changes in the environment either external to the organism as a whole, or to portions of it, as in those vaguer sensations which we locate with difficulty, dependent on altered states of the blood-circulation. Or they take the form of a consciousness concomitant with centrally-initiated movement, and thus reveal in germ that active phase of mind, which, in its most developed form, we are wont to regard as the supreme mental phenomenon.

The simplest phase of this psychical activity is familiarly known as the act of Attention—a phenomenon so uniformly present, during the waking state at least, that it is not seldom identified with consciousness itself. And, indeed, there is even some warrant for this, for Attention shades so finely into Inattention that it is difficult to characterize any phase as one of bare *awareness*, since subsequent reflection usually leaves no doubt that the mind must have been on the alert. The case of the somnambulist is sometimes cited as decisive of the reality of the distinction. The somnambulist carefully avoids obstacles, even performing feats of dexterity beyond the power of the same individual in the waking state, but apparently going through his various operations without being cognizant of the outward causes of his sensations, the receptivity being perfect, but apperception *nil*. And it is at least a plausible suggestion that in such a state certain regions of the brain are entirely dormant, just those regions,

in fact, which are aroused into activity when we exert a volition in that incipient form which we are so prone to consider of the essence of Cognition, the reaction of the mind whereby we trace our sensations to a producing object.

This act of the mind whereby we leave the primitive ground of sensibility, hold our sensations, as it were, at arm's length from us, and present them to ourselves as *objects*, is termed Perception; and the lowest animal, no less than the highest man, has this power, although doubtless the perceived object means something very different to the animal than it does to the man. It means something very different, because to man this intuited object signifies a Not-Self, an item of apprehension which could not be possible to a being which had not risen to a higher stage of conscious existence than bare perception.

Although the theoretical psychologist is accustomed to separate sensation from perception, and to insist upon the priority of the former, it is very doubtful whether pure sensation is a fact of conscious experience. We learn in physics that action and reaction are equal and opposite, and in psycho-physics, or psychology, it is not improbable that action and passion are an inseparable pair. It is true that the localization of sensation is often vague in the extreme, but it is difficult to imagine an unlocalized sensation. Now this localizing of sensation is a characteristic feature of perception, a localization which, it should be observed, is due not to some ready-formed extra-mental attribute, but to the mind's own energy. Were we only passive, our sensations would only have intensive, but not extensive quantity; we might discriminate difference of degree of feeling, acuteness and massiveness of sensation, but we should not spread out these sensations into a continuum, not assign them a relation of co-adjacence as well as of co-intension.

The life of perception is more or less immediate or concrete. Although the actual basis of subjective affection may be small, the experience is essentially real, and although the additions from ideal memory may be considerable, we are warranted in regarding the perceiving attitude as the attitude of reality *par excellence.* But when the stimulus is removed we drop from the public sphere of reality, and are left in the realm of private ideality. A man's perceptions are not his alone; in possessing them he participates in a common life; but a man's memories and thoughts are his and his alone. The vivid percept is first degraded to the faint image, and the image finally loses all form and colour in the idea.

Another expression for this sequence of events is that conscious life consists in a passage from the concrete to the abstract. The primary experience exhibits the maximum of concreteness. The world of the young child is a world of actual vivid feeling, absolutely articulated, a robe of perception without a seam. As some of the causes of its impression are uniformly withdrawn it finds a difference of colouring in its experience, and learns to distinguish between the objects actually present, and the paler surviving relics of its memory. By transposition of stimuli moreover the fixity of primary association is infringed, and the youthful mind learns to partition its experience, and

to form a more precise representation of the world of things.

The multiplication of experiences does something more than this, however; it makes the retention of images more and more difficult, and the necessity of keeping pace with a world in such constant flux and progress reduces the major part of these images to signs. The process here alluded to is the mental attribute termed Abstraction, and the ability to perform such an act indicates an immense advance in intellectual power.

But now, did the control of conscious experience end there it would never have been possible to define man as *animal rationale;* for rationality implies operation not on particular, but on *general* signs, and to effect that an instrument must be constructed which shall facilitate re-representative knowledge, which shall not only enable the mind to *perceive* a lion from a certain odour or colour, but allow the mind in its solitude to *think* lion, as in the unspoken judgment 'lions are dangerous beasts,' without any concrete reminder, through the medium of either the sense-organ or the internal organ of imagination.

For thought, for reasoning, we require a mental algebra, and the quantities of this algebra are termed *Conceptions.* The concept is related to the percept as the *a*'s and *b*'s of common algebra to the pebbles and other discrete objects of daily experience. By its aid the single rational intuition may do duty for numberless sensible intuitions, and we can carry on a train of thought that without such a symbolic language would have been impossible.

From the system of sense to the system of thought we creep thus gradually. To us of the present day the chasm seems inconceivably vast between the prevailing life of perception of the brute and the prevailing life of conception of the civilized man, but the gulf may not really be as great as it seems. The missing link—the origin of language—will doubtless be detected by the penetrating eye of future science.

The civilized child, as standing nearer to the primitive age of the race, leads a life still largely perceptional. To try and *force* the youthful mind beyond its constitutional capacity to the higher stages is both vain and injurious. A premature absorption in reflection and abstraction not only atrophies the body, but also engenders a barren schematism, in which the mind spends precious time in the fruitless working of a new instrument, without the application to material for which the instrument is alone desirable. But as time goes on the operations on signs, rather than on the things signified, must make up a large part of the doings of consciousness, and *judging* and *reasoning* be the daily portion.

Very early indeed the habit is formed of striving to enlarge the area of experience by purely rational processes. Uneducated and educated alike are prone to make universal assertions on the strength of a very slender amount of evidence, the practical utility of an 'all' giving, doubtless, the cue to this usually erroneous extension of the known. If we are to believe the school-books, the counter-process is even more common of pushing the vast stock of supposed general truths, whether derived from tradition or

through the operation just described, into all their consequences. But I take leave to doubt whether this 'deductive' operation, as it is technically termed, is really as general as our logical teachers would give us to understand. The actual state of the case seems to be far rather that alleged by J. S. Mill, when he maintains that the primitive and common mode of inference is from particulars to particulars on the ground of superficial resemblances. We *induce* or make general assertions on the strength of a few instances fast enough; but we rarely deduce, or reason downwards from assumed general principles, unless our vocation lie, as with the judge or the mathematical physicist, especially in this direction.

The performance of the intellectual operations of which mention has been made is never *unmotived*, although the motive may not always be self-evident or even conscious. Will, as I hinted above, is in my opinion not synonymous with volition, the former being a genus, of which the latter is a species. A volition I define an act of the mind, determined by a motive distinctly presented to consciousness; and a large number of our activities, although plainly mental or subjective, do not possess these consciously realized antecedents. While, then, in the case of many centrally-initiated activities it is hard to say why and how they arise, when once they are set on foot, and generate associations and intellectual combinations of various orders, they are either continued in virtue of something else than their own momentum, or retarded by another cause than their own inertia. All acts of the mind are with rare exceptions accompanied by a conscious ingredient termed pleasure or pain. They either cause delight or occasion a sense of displeasure. The exceptional cases are when the physical or psychical stimulus is, in relation to the excitability of the system, of so limited an amount as to arouse the mind from its torpor and nothing more; or when by long action of the stimulus, the mind has grown accustomed to the new condition, an increment or decrement of stimulus being required to change its tone.

When the pleasure or the pain is detached from its intellectual surroundings, and made a distinct object by consciousness, volition occurs, and we are said to work for a specific end. What ends we should work for, and what motives to the will we should suppress by a counter effort, in view of a still greater good, is the problem of the discipline of the will—a subject of supreme importance, which will subsequently require a chapter to itself. I will here only make the psychological observation that the work of volition must not be judged by the complexity of the impelling motives. It is not the circumstance of deliberation and resulting resolution that is the characteristic mark of a voluntary act, but the initiating of movement itself. Whether the motives be one or a hundred, will is always there when the mind is strained to effect a certain purpose.

The conflict of motives just alluded to, however, introduces us to the circumstance hitherto passed by in silence, that the mind is often the theatre of intense struggle; that, indeed, as the tendency to regard volition as emerging from conflict shows, it is an internal sea, where perfect calm is rather the exception

than the rule, and violent storms alternate with gentle breezes. The definition of man as ***animal rationale*** is indeed partial in the extreme. The emotions are not the least permanent or least important part of our mental constitution, and the culture of the emotions presents even a more difficult problem than that of the intellect. A wrong heart is at least as mischievous as a wrong head, and there is not a little danger that in our anxiety to avoid the intellectual aberrations of our ancestors, and to make the mind a better mirror of the rational order than heretofore, we may leave to chance the training of the instinctive feelings and the social sympathies, and so let the tares of lawless impulse choke the wheat of knowledge we have so sedulously sown. If the motive of intellectual veracity obtain by strenuous habit complete sway over the wandering trains of thought and a too eager imagination, the mind will be still ill-prepared for encountering the real stress of actual life, unless the motive of moral veracity, and a strict regard to the legitimate feelings and rights of others, constrain individual action to a perfect harmony with social needs and endeavours.

The contents and purport of this introduction may be thus briefly summarised. The education of youth, to be successful, that is, to fit the child to play a worthy part in after-life, must be in obedience to the laws of mind. A complete understanding of these laws would require a thorough knowledge of the antecedents of the particular mind. Such antecedents are and always will be for the most part unknown. The most we can hope for is to understand the general workings of the mind, assuming a uniformity of operation under approximately uniform conditions. The teacher will, however, as far as circumstances permit, carefully note deviations from the normal type, and vary his practical rules in accordance with the peculiarities of the case. The business of the psychologist is to trace out the statics and dynamics of a typical human mind, to resolve compound mental operations into their proximate and ultimate elements, and to explain the mechanism by which mental results are obtained. The educator will accept these theoretical inductions and deductions from the hands of psychologists, and will be guided by them in practice, possibly repaying the debt by collecting fresh facts for the elucidation of the theorist, the favourable opportunity possessed by him of witnessing the development of minds from a comparatively early age having as yet been hardly sufficiently utilised.

The maxim which has been found so fruitful in other departments will bear excellent fruit here likewise: 'Follow nature,' understanding by nature in the present instance those co-existences and sequences which have been established by the psycho-physical adhesive growths of centuries, which we may modify, but cannot undo.

II.—OBSERVATION AND THE TRAINING OF THE SENSES.

THE careful historian of philosophical opinion sometimes finds it hard to determine whether a particular belief is merely lost sight of for a time, or has been definitively abandoned; but there is one item of former metaphysical creeds, in respect of which, I apprehend, doubt would now be out of place—the doctrine, so vigorously combated by Locke and others, of 'Innate Ideas.' It is true the mind's original furniture is still described in various terms by different observers; but, whatever be the view taken of our primitive endowments, specific conceptions of either sensible or supersensible realities are certainly no longer held to form any part thereof. Knowledge of all kinds and degrees can only be acquired by more or less conscious elaboration of material supplied to the mind from without. That ideas are often arrived at with a minimum of effort, is owing, not to any reserve of cognitions which it is in the power of more replenished intelligences to bring to light, but (primarily) to difference of inherited nervous organisation, and (secondarily) to the special training to which the youthful mind is submitted. We are, it is true, often startled by the curiosity and readiness of apprehension of very young minds, apparently indicating an appreciation of the significance of problems which in general is patent only to the mature understanding; but in every case a sufficing hypothesis is the reasonable belief that these precocious infant minds, being more finely constructed instruments, respond, but without comprehending their import, to impressions and suggestions which fail to arouse vibrations in duller souls. Were the truth not so frequently ignored, it would seem almost too obvious for remark that there may be great inequality in respect of apprehensiveness, an inequality which may be maintained throughout.

Our stock of ideas I assume, then, to be always personally acquired. I take it to be an error to speak of *a priori* notions, or mental conceptions had before actual converse with the world of things. What is *a priori* is the psycho-physical fabric, the embodied mind, which has been slowly built up by the prolonged reciprocal action of organism and environment. But even such a statement as this does not convey the whole truth. We have further to say, however crude it may sound, that the most delicate feelings, the sublimest imaginings, have a very lowly origin; that the ideal world is really homogeneous, as much of a piece as the material world of the modern believer in the unity of the physical forces. 'There is nothing in mind which was not first in sense,' ran the old dictum. Its modern rendering is almost identical with it: There is no item of consciousness which was not first suggested through sense. Modern psychology has revised the ancient dictum, has enlarged its scope, but contains no firmer principle within the whole range of its teaching.

Now, simple as it may seem when casually proposed, the question, 'What is a sense?' is by no means an easy one to answer. We are apt to think at once of

the so-called sense-organs, eye, ear, &c., and to rest contented with the statement: The senses are avenues through which changes in the outer world are reported to the centre of consciousness. And as a first rough approximation this account is not amiss; but when we look a little closer into the matter we see that this said 'outer world' has very hazy limits, and we are puzzled to determine in what category to place certain modes of consciousness which are qualitatively indistinguishable from impressions resulting from affections of a definite sense-organ, although (save by a stretch of language) there is no mediatory organ in the case. Between the sensation of touch, ultimately produced by some affection of the exposed skin, and a feeling of internal pressure due to some obscure local cause—between this latter relatively definite sense of uneasiness and the wholly vague feeling of systemic satisfaction or dissatisfaction, what fine degrees, and what consequent perplexities of description and classification! And what has become of the 'organ' which entered into our differentia of a sense? Again, neither retina nor skin, either separately or combined, will be found competent to reveal to us the whole of what we understand by a solid figure; and we are finally compelled either to fall back upon the discredited doctrine of a non-empirical origin for a large number of ideas, or to enlarge the definition of a sense so as to indicate the maximum of resemblances without confusion of mental boundaries.

The latter course is quite practicable, at the cost of departure from uncritical popular conceptions. We have only to declare that a sense is a primary form of psycho-physical receptivity and activity, specialised by the distribution of the nerve-fibres and their internal endings in nerve-centres.

A purely active sense we do not possess. Our strictly passive senses are numerous: they may be divided into two classes, according as they are awakened by stimuli external or internal to the body. The former would include the senses of colour, sound, odour, taste, touch, temperature; the latter a mass of feeling very difficult to describe in detail, but for the most part closely resembling the vaguest external senses, touch and temperature. It is characteristic of these internal senses that they are little regarded, save when the physical agitation is so great as to induce a marked emotional accompaniment of pleasure or pain. This emotional accompaniment, overpowering their sensuous quality, renders the internal senses of little value as sources of intellectual knowledge, but gives them a pre-eminent value as inciters to voluntary action.

The senses which contribute most to knowledge of the outer world are those which are at once active and passive, the two forms of consciousness being so inseparably united that only a very careful analysis can distinguish the part played by each. The obtrusiveness of the external suggestion has even led to the contribution of the psychical organism being ignored altogether, and popular language reflects an immature psychology when it opposes Sense to Understanding as a receptive to a productive faculty. These mixed senses, as they may be called, are chiefly sight and active touch; a portion of the sensations of hearing,

smelling, and tasting, though a comparatively small portion, have also a place here. But it is the eye and the moveable members that are the physical parts which chiefly mediate the operation of these compound senses. Consider what amount of knowledge would be possible for a being with an immobile eye and wholly paralysed limbs. Such a being would be stimulated by, or encounter shocks from, the outer world, but it would have no means of distinguishing between the sensations which arose through changes in its own organism, and those which resulted from changes in a contrasted Nature. By being able to initiate movement, a normal human being, however, obtains a view of the world immeasurably more precise and proportioned. He is able, by varying his efforts, to estimate the consistency of the objects which surround him, by lifting them to form an idea of their weight, and by rotating his eye-balls to obtain pictures of infinite variety in an incredibly short space of time. In brief, instead of regarding himself as but a conscious thing, blown about by every wind of outward circumstance, he can adequately distinguish, if he tries, between the sphere of his personality and that larger world which is set over against, and in contrast to, him, and whose attributes are only to be detected by the exercise of nice observation and discrimination.

To resume. All notions or derivative constituents of consciousness are either revived sensations, or compounded sensations, or abstracted sensations. The proof of this assertion can only take the negative form, disproof of alleged exceptions. But by Sensation must be understood much more than is usually thereby signified; it must be taken to include all modes of feeling and action undecomposable according to the most rigorous inspection.

Turning now to practice, it is evident that the *training* of the senses will include (possibly) the providing appropriate stimuli for sensuous re-action, and (certainly) the seconding of the mind's efforts to gain command of the material offered it, always in obedience to the ideal end of the efficiency of the individual as a member of a community progressive in its hopes and desires. Humble as the office of disciplining the senses may be, one cannot help seeing that its effective discharge lies at the root of all human progress. Over-stimulation here, atrophy and neglect there, will pervert the nature, and be the source of numberless failures and regrets in after life. This is sufficiently apparent in the case of abnormal sense-faculty, as when there is a malformed organ of sight or hearing; but the same fact holds good of unused senses generally, and had we always the skill to detect the subtle links of the casual chain, we should doubtless note in the aberrations of the mature mind the fruit of a lack of attention or of confused perceptions uncorrected in the nursery or the primary school.

We here come, however, to a point where a fundamental difference of opinion has to be signalled, which may as well be taken notice of now, although its application is to the whole range of mental culture. I allude to what might be termed the *anarchical* and the *paternal* views of early education. There is seemingly a natural tendency in the pedagogic mind to gravitate to one of these extremes, to exalt the child's

ability to find right roads by itself, or to anxiously watch the early development, as if in the absence of the cultivator's eye only worthless weeds would burden the soil. The limitless virtue of direct instruction is the pre-supposition of the latter school, leading to a painful attention to detail and a multitude of prescriptions which fetter all original development. On the other hand, it is scarcely open to doubt that the youthful mind, left almost entirely to itself, will seek pleasant paths—often to its own detriment—and lose chances of strengthening its powers which can never be regained. As a desirable re-action against over-government this latter tendency is good, and if we modify it thus,—the child should be left to run alone, or find its own way, up to the point of exhausted effort, or the limit of positive error,—the principle may stand as a wise one, a useful restraint on disciplinary formalism.

The view here taken may be otherwise indicated as follows:—All methods of education are more or less artificial. It is desirable, however, that this artificiality should be minimised, and that for several reasons. Discipline is only a means to an end; the end in the present case being exercise of faculty in a real world beyond the reach of radical change, whose work has to be done, and not our private will. The period allowed for mental gymnastics being brief, it is desirable that the utmost should be made of so short a preparatory season, and the only way to fulfil that requirement is to assist Nature as far as possible, and take advantage of the opportunities she spontaneously offers. Now rapid progress is only possible under two conditions, the one negative, the other positive—that we do not attempt to anticipate the growth of the mental powers, and that we obey the hints afforded by the possession of a faculty, and rather supply the means for its expression than neglect it for the sake of what we deem some superior power. In short, the school should as much as possible be the real world in miniature, and supreme regard should be paid to that guide which achieves success in the real world—the 'Law of Interest.'

We have in the sports of children a striking monition to keep as close to nature as possible in our artificial systems. It has been repeatedly remarked that as severe toil is undergone in *play* as in serious labour, but it is cheerfully undergone because the normal powers are left to be freely exercised, and natural cues are given to observation and attention. Here are exemplified the contests and occupations which will afterwards be entered upon under other names, and for which there is an organised proclivity, owing to the protracted adjustments of ancestral habit. In this mimic state all is concrete. If the scenery is barren, the child replenishes it with ideal stores, constructing palaces and citadels out of chairs and tables, and transforming sticks and ill-shaped puppets into prancing steeds and heroic men and women.

But it will be said the very object of discipline is to draw away the mind from this spontaneous and exuberant concreteness, to induce reflection and the acquisition of powers of generalisation. Undoubtedly; but how? Not by doing the child's work, or worse still, applying results which have only been obtained

by years of abstract culture, striving to 'put old heads on young shoulders,' but by leaving the child to perform its own analysis, and seconding, but not superseding, its efforts. Surely the great economic law, which has borne such excellent fruit in commercial industry, is worthy of prime consideration in education, to attain results with the least cost; and the best results are ever obtained where there is the least coercion, and where the goal of abstract thought is reached by easy stages.

To apply these remarks to our immediate subject. The first education should represent a 'masterly inactivity' on the part of the instructor. Let the child first teach its tutor. Let the latter rather practice the art of observation, and permit the child's glances to roam at their own sweet will. Little by little the gaze will get steadier, this or that object will fascinate the mind, and an opening will be given for the control of Attention.

There are three leading types of character answering to the three varieties of sensibility. There is the subjective mind, whose interest is prevailingly claimed by its internal or organic sensations; the passive or sensuous nature proper, which is chiefly allured by the pleasures of the palate and the beauties of colour and of tone; and the active temperament, which is favoured by a strong muscular development, and which, by preference, reacts on its environment, and loves to assert itself in opposition to the passive and active resistances of its surroundings.

The first of these dispositions will early claim the thoughtful care of the skilful trainer. Although it cannot be denied that there are the possibilities in a nature so endowed of unfolding a character superior to that of the other two, the unforeseen outward shocks to which the introspective nature is exposed render such a self-centred constitution anything but a desirable possession for the individual himself. The art of the trainer in this case will lie in trying, as we say, to draw the individual out of himself, to strengthen the external regards by exaggerating the objects of outward sensuous apprehension, and by repeating the stimulus sufficiently often to prevent the inevitable relapse at the first opportunity into the subjective attitude. Above all, those mixed sensations in which activity is most manifest should be sought to be aroused, an end which can best be gained by presenting curious objects to be handled, or by investing visible forms with pleasing accessories. It is of little avail to exhibit bald specimens, concrete abstracts, as they might be termed —the subjective mind is either listless or speedily diverted—but rather natural or artificial objects in which the wealth of the concrete is not spared. When the subjective bias is corrected, and the habit of attending to outward objects is established, the severer forms may be offered to the view.

The sensuous temperament, as it may be styled, to conform our phraseology as far as possible to the popular language, is, in a way, intermediate between the subjective and objective temperaments proper, and its discipline would be regulated according to its strength. Taste, as being partially an organic sensation, is too universal an endowment to receive a special correction in one mind more than another. The

fondness for sweetmeats is as much a propensity of the objective temperament as of the dreamy nature, and neither sex nor age seems to be a stranger to these delights. With regard to these 'lower' senses of taste and smell but little has hitherto been done for their cultivation; we are apt, perhaps, to ignore their regulation even too much. The ascetic Spartan schoolmaster (ascetic not always on Spartan principles, it is to be feared) is responsible for not a little of the inordinate craving for injurious delights in early years, and the excesses of a later period; and a fastidious palate is regarded by not a few strong-minded parents as a something to be suppressed rather than respected. But surely the sensations of taste enter largely into the legitimate pleasures of life, and one of the marks of a refined mind is a selective taste. The same may be said with regard to odours, though here there is no pretence of a regimen, and it has hardly yet entered into the mind of the pedagogue to conceive the regulation of this rather despised sense.

When we speak of the training of the senses, we usually think exclusively of vision, hearing, and touch, and with a passing plea for the non-neglect of other sensibilities, I pass to their consideration.

The sensuous temperament has usually a strong susceptibility to the brilliancy of colour, and our means of gratifying the appetite are rarely equal to the faculty of appreciation. A superior natural endowment for colour is announced not so much by its quick stimulation by depth of hue, as by its selection of certain colour-combinations. That there are harmonies of colour, as of tone, is almost certain;

but the eye is not usually so well instructed by nature on the matter as the ear, and the theory of chromatic æsthetics is in a somewhat backward condition. On the evolution hypothesis, the child, of course, is more readily thrilled by combinations which have been most frequently presented in ancestral experience, and it is not improbable that future art may generate new tastes for colour combinations which are felt by us as disagreeable. The relations of the chromatic scale have not the same definiteness that is possessed by the acoustic, and the teacher must be content to rely largely on tradition in his search for rules for training this endowment. But there will be no dispute about the necessity of apportioning the depth of the tints to the keenness of the sensibility, the effectiveness of the discipline being measured by the capability of lowering the tone without losing the interest. To be stimulated by grey or neutral tints is the mark of greater susceptibility or protracted training.

With regard to Tone, the instinctive pleasure is here very unequal. There is a musical sense in most; but I have noticed what, if the language were not unscientific, would be called a most capricious distribution of this sensibility. Up to a certain point the susceptibility to rhythm is strikingly characteristic of the subjective temperament (as illustrated by the fondness for lyrical poetry); then there is the delight of revelling in the luxury of tone by natures which can hardly be classed either as introspective or as objective; and, lastly, a high musical taste is often found possessed by very active temperaments, which have little relish for other passive enjoyments. I am

not aware that psychology has yet explained these strange conjunctions, which are doubtless ultimately grounded on the unique character of the auditory sense, as at once a highly emotional and a highly intellectual sense.

Under any circumstances, the schools of the future will remedy the gross neglect of the auditory sense which has marked the irrational methods of by-gone education. When it is considered what a high social sense Hearing is, how it is hardly possible to enjoy it in solitude, and what simple conditions are required for diffusing its delights, there can be no doubt about the place its cultivation should occupy in a rational curriculum. What discipline there has hitherto been has often been fatally misplaced, however, and probably more tears have been shed over ill-given music lessons than over any other branch of youthful instruction. Simple indifference often deepens into disgust, through a disregard of all psychological law, and an attempt to require performance of compositions which could not possibly be appreciated without a considerable evolution of the perception of tonic relations. As regards vocal discipline, a plea must be put in for the elocutionary training of the ear, the art of reading, an art which is popularly supposed to come by nature, judging by the little time devoted to it in most seminaries, though probably there are a dozen fairly good singers for one tolerable reader. The sense of touch is so largely muscular that it may best be considered in the next paragraph.

We come then to our third group, the objective or active dispositions, that is to say, where the tendency

here it would be to form the defectives into an awkward squad, and by no means to allow a mechanical genius to be present to put the other members out of countenance. Emulation is undoubtedly good, but it is ignoring the limitations of a sound principle when the much and the little endowed in any direction are brought together in the same class. If the pre-eminence be too pronounced, the feebler members simply relapse into indolence through sheer despair. But there is no knowing what might be done in the way of remedying defective powers if the wise instructor were to set his class of equal defectives to work on very simple things, simple almost to insignificance, and then without the discouragement of failure, slowly train them to excellence. For in all this matter of elementary training we signally err by being too little inclined to stoop to the infirmities of human nature. The genuine trainer will think nothing too elementary or familiar, will smile at no depth of simplicity, and frown at no amount of awkwardness. What, in presence of the infinite unsolved riddles of the world, is the vaunted knowledge of our greatest scientists?

The 'muscular' senses form the best training-ground for the art of observation. Our standards of reference are the sensations procured through eye and hand. We measure the flight of time by the passage of the indicators on the clock-dial, and our nice estimate of degrees of force is, after all, reducible to certain exerted or resisted pressures. The conditions of accurate observation cannot, however, be stated without reference to higher powers of mind than those with which we have as yet become acquainted. Far more than keenness of perception and nicety of discrimination is needed to constitute a good observer. The supreme difficulty is to eliminate bias and the forward leap of the mind; and bias and the anticipatory instinct are always present, although a many-sided culture may do much to reduce the evil. General cultivation of the mind will be found to tell upon the power of observing, but as far as direct training goes, the cultivation of the faculty of observation is equivalent to establishing a habit of nice distinguishing.

Misled by erroneous notions of human dignity, older pedagogic methods have endeavoured to overleap the first stage of Nature's culture, and to give a training of *con*ceptions before and in place of that of *per*ceptions. Hence the inevitable youthful aversion to school-exercises. As the laws of mind are better understood, all this will be remedied, and a duly-balanced sensuous life will be seen to be the best preparation for the life of reflection and rational inference. The wise poet does not ask too much for his ideal youth when he sings:—

> 'He must be musical,
> Tremulous, impressional,
> Alive to gentle influence
> Of landscape and of sky,
> And tender to the spirit-touch
> Of man's or maiden's eye.'

III.—ASSOCIATION AND MEMORY.

It is characteristic of Mr. Herbert Spencer's treatment of Mind that he has striven to show how much may be learnt from even a hypothetical account of the Genesis of Nervous Systems, what an increase of insight we obtain into mental laws when we unravel their physical conditions. Much has been written and surmised about the connection of ideas, but the larger part of such discussions has consisted rather of description than of explanation, and the real grounds of these connections have escaped notice through the fatal limitation of enquiry to the reports of inward self-examination. For although we freely own that in the last resort consciousness is the source of all our knowledge, the slow progress of mental science is a sufficient demonstration of the assertion, that to neglect the study of the organic conditions of Mind is to miss the clue to the understanding of some of the most familiar phenomena.

These remarks are peculiarly pertinent here, for on the one hand the trivialities which have passed for mental science, and on the other, the embarrassments experienced by psychologists alive to certain prevailing fallacies, but unable to replace them by sounder knowledge, might be largely illustrated from the treatment of Association and Memory. The usual instruction on the subject amounts to this, that it is erroneous to regard the mind as a 'store-house,' that impressions and ideas are not laid up as it were in a cupboard for further use, and that there are certain principles of association which, according to different authorities, variously range from one to a dozen.

With regard to the Laws of Association and Memory, attempts have indeed been made to justify the favoured number; but why there must be this number and no more, why there should be association at all, and wherefore the popular view is erroneous which regards memory as a kind of spiritual receptacle, has been far from clearly seen. Now the truth of the matter is simply this, that the permanent element is not mind at all, but a more or less settled material fabric, a connected nervous system, the degree of whose elaboration rigidly determines the extent of the mental powers. In a rudimentary nervous system, the various parts of which are very loosely connected, a very low state of mind will alone be possible; but at a further stage, where nerve bundles are consolidated and the inter-dependence of distinct centres is effected by very definite communications, not only will the retentive power be strengthened, but the recall of the past be correspondingly facilitated. Ideas *as* ideas have no permanent existence, they only survive the brief moment of conscious apprehension, but a very similar state of consciousness can be brought about if the old nervous tracks be struck upon, and if the various nervous connections are in good working order.

A glance at the anatomical relations renders at once intelligible the important part played by association in the mental life. It is almost impossible to stimulate

the nervous system either centrally or peripherally without the influence being propagated in various directions, determined primarily by the structural connections, and secondarily by the intensity of the shock. Experience tells us that nothing is more difficult than to confine the thoughts to a limited area. To check the spontaneous flow of feelings, to forbid the natural conjunction of ideas, may often require considerable effort, and when we are dealing with impressions of sense may even be impossible. The art of education may indeed almost be summarized as the art of facilitating or hindering psychical associations, and the limits of that art are inexorably defined by the given structural conditions.

It is fortunate for us that the *fatal* element, as one may call it, is thus dominant, for were these nervous connections not so determinate the acquisition of the simplest ideas would be enormously difficult. We require the co-operation of sense-impressions and muscular movement every moment of our lives, but the rapidity of correctly-estimated concurrence is, in most cases, out of all proportion to the amount of deliberate effort. As we get further away from sense, however, the bond of association is more difficult to forge, and the most prolonged endeavours may prove fruitless. Each period of life has its favoured associations, rendered possible by the degree of nervous development. In early life, when the organs of sense are more developed than the brain, the sense-cohesions will be far more numerous and stronger than intellectual combinations. Such inward life as there is will consist of repetitions in imagination of past sensations and external impressions. Later on, when the ruts of custom in the region of sense are well worn, the mind will be less distracted by the brilliant setting of its pictures, and will come to dwell more upon the grey nucleus of constant properties. These recurrent attributes will haunt the mind, and objects will be linked together through the possession of common properties rather than by mere external affinities.

Memory is so largely a case of association that the 'Laws of Association' are usually presented as 'Laws of Memory.' There is little to be gained, indeed, by insisting on the greater generality of the laws of association. It is conceivable that impressions might be connected without any consciously apprehended interval between them. Thus it would be hard to say which arose first in the mind, in that indissoluble conjunction, the shape and colour of a body; but a non-serial consciousness, if there be such a thing, is a phenomenon, in the case of man at least, which must be exceedingly limited in its manifestation. It is quite true that we cannot remember our first years, that is, cannot recall events belonging to so early a period; but that the lack of the power of reproduction does not preclude memory, the recognition of a host of objects by infants sufficiently proves.

The capability of remembering implies two things, *retentiveness* and *recognition*, but the former of these terms must be carefully defined or it will be suggestive of error. Strictly speaking, the mind *retains* nothing. What happens, expressed in the language of psychology, is a succession of modes of consciousness recurring

from time to time either in the same or in some other order; in physiological language, a number of nervous changes in large part indistinguishable in character from one another. What is past is beyond recall in its original form, what remains is a *disposition*, a lessened power of resistance to similar exciting influences. But this is not all. A repetition of like causes leads to an assimilation or identification of the effects. It is not enough that there be an echo, the echo must reinstate the past, in its truthful outline at least, so that we can say, 'I had a like experience to this on some former occasion. What to me now is idea once was feeling.' The laws of association, then, considered as laws of memory, tell us the way in which these results are obtained, or at least aim at this result, although, as I mentioned at the outset, no explanation is satisfactory which does not take full account of the physical conditions. This being understood, we may now proceed to consider memory exclusively on the subjective side.

A good memory implies speedy reproduction of ideas, a rapid recovery of pictures of scenes formerly witnessed, or a review of conceptions in the order and connection in which they were previously meditated by the mind. It is clear that for the securing of these results the mind must be very impressible in respect of the class of ideas recalled, and that the more numerous the relations of such ideas are the greater will be the likelihood of their being brought within the field of view. As regards the former of these requirements, it may be said that nothing can compensate for considerable obtuseness of faculty. A readiness to be affected by very slight influences is, after all, the supreme condition of memory. Within the same mind, however, there are noticeable the greatest differences in this respect. It is not easy to find a good memory for strongly contrasted orders of facts and truths, a circumstance which must doubtless find its ultimate explanation in the law of the conservation of energy. A good memory may be inferred where the attention is quickly arrested; for this means that the mind will spontaneously recur to the particular class of facts, the aliment offered evidently suiting the constitution.

It is almost saying the same thing in other words when we add that things are most easily remembered where the mind experiences pleasure in cognizing them; for where there is pleasure there is little or no resistance to be overcome, and all the energies are absorbed in the contemplation of the object of interest. Where there is deficient susceptibility we endeavour to make up by repeated impression for the lack of natural fascination. We try to conquer the stubborn intellect by dint of hard and frequent blows. Or the mind is bribed by insinuated pleasure to think on what is naturally indifferent to it. The policy of enforced repetition may be regarded as the discipline of pain, which thus appears in the matter of acquisition to be a hard necessity or secondary resource rather than a primary aid.

Next to the natural susceptibility to impressions the best hope of obtaining a good memory lies in a large store of ideas. The advantage is that the paths to any goal are multiplied, and the chances are increased

of clues being found to any forgotten idea of which we are in search. The Principle of Association, usually styled the 'Law of Contiguity,' hinges on this condition of memory. It is to the effect that all present states of consciousness favour the re-presentation of portions of bygone experience with which the ideas now uppermost have some external connection, the commonest being the occurrence of the original in close temporal proximity. As in the former case, the firmest cohesions are those which are spontaneously formed, but we may do much to strengthen the contiguous bond by observing certain rules. In early life Nature's tuition is most effective. Sequence alone is then sufficient to form associations; and in most cases the rapidity of acquisition, as illustrated by learning by rote, is truly astounding to the adult mind bereft of such power. It is enough at that early stage that two things occur together for an indissoluble connection to be forged, and to the very last we are called upon to bless or lament these fortuitous conjunctions. So readily indeed are the links fashioned, that they may elude all control; and there are few who have not cause to regret the tenacity of unbidden associations at some time of their lives. But it cannot be denied that the gain outweighs the disadvantages, and that it would be a mistake to try to discourage this spontaneously associating power. On the other side its direct encouragement requires very considerable judgment; and for that reason it may not be unjustifiably argued that the ablest and wisest teachers are needed for the training of the most youthful minds. The amount of mischief that is done by abusing the great Law of

Contiguous Association is incalculable. Some day Society will visit with its sternest reprobation those who abuse their trust to create associations in child-minds which have neither reason nor good principle on their side. It must never be forgotten that it is easier to make than to break an association; and though man has to a certain extent succeeded in assisting memory, he has not been very successful in framing aids to forgetfulness. But it should not be lost sight of that the latter are almost as much needed as the former. How to forget is often a very serious question; and there would seem no other recipe than this—form fresh associations which may neutralize the effect of undesirable bonds, and then aid the struggle for existence by continuous concentration on the worthier alliances.

With advancing years more may be safely done in the way of assisting memory than in the earlier period of life. It is now usually futile to rely upon the natural plasticity in the hope of producing adhesions by mere time-sequences. 'Learning by heart' turns out mostly a waste of time, requiring an effort altogether out of proportion to the value of the result. Resort must rather be had to the principles of logic for the cultivation of memory. Memory will be best served by clearness of arrangement, by observing a logical sequence in the course of study, and by relying more on distinctness of conception than on wealth of facts. The mind cannot be supplied with too many facts in the earlier periods; but with the decrease of plastic power, inevitable with increase of years, the materials of knowledge will stand a poor chance of being preserved,

unless they are assimilated with previous knowledge and cast in the logical moulds. Hence the importance at this stage of system, of reduction to rule, of deliberate sorting of knowledge. In fact, the other law of Association, which has been called the 'Law of Similarity,' is here the paramount principle, and its importance increases the further the pupil advances on the scientific path. This law affirms that impressions and ideas are associated by resemblance; and the perception of resemblance lies at the root of all the higher qualities of intellect. There is no more powerful aid to memory than the effort to string a number of particular experiences on a common thread, to see that the same principle is illustrated by a host of particulars. Once let the general expression or *law* be comprehended, and the details can be trusted to take care of themselves. All who have been called upon to master a host of details, as in the study of Chemistry, for example, will bear witness how bewildering was the mass of observations and experimental results at first; and the task of remembering all the compositions and decompositions seemed hopeless until substances were arrayed in serial order, and natural alliances were made plain.

In speaking of the deliberate training of the memory, we cannot pass by a question which has been often mooted and answered in very different fashion: whether there be not artificial aids to memory which a thoughtful teacher might find serviceable. In a limited way resort has been had to artificial mnemonics in the shape of doggerel lines, for the permanent preservation of some important piece of information, which cling to the memory and save the effort of distinct recollection. Mnemonics are sometimes based upon the 'Law of Contiguity,' as in the case of the rhythmical flow of verse which, by the alternate rise and fall of the voice, suggests a continuity that would be lacking in plain prose. In other cases the 'Law of Similarity' is invoked, as in certain aids to the remembering of numbers, by framing a *memoria technica,* which represents numbers by letters, and embeds the latter in some phrase descriptive of the event whose date is to be recalled. Despite the utility of such mnemonics in certain peculiar cases, I apprehend that as a rule purely artificial auxiliaries are undesirable.

The case of numbers is a decided exception, but an exception which justifies the rule. Numbers, as perfect abstractions, can have no natural associations. All numerical changes being rung on ten digits, to expect the human mind to remember more than a very few events by endeavouring to strike up a cohesion between a concrete fact and the permutations of a highly ambiguous set of symbols, is utterly unreasonable. But when we have excepted numbers I do not know that there are any cases where a scientific treatment would justify the systematic employment of mnemonics. Mnemonics are not applied psychology, and applied psychology, one form of which is mental discipline, must be a rational deduction from the laws of mind. Individuals may, if they please, avail themselves of *memoriæ technicæ,* but the use of such must always remain empirical, and what is a help to one may be a hindrance to another mind.

The genuine training of the memory consists in detecting and employing the threads of association which the mind gathers in its spontaneous operation. These methods are necessary, and the art which leans upon them is, what it should be, 'nature better understood.' Exercise strengthens the contiguous bond, perception of cause and effect, personal experimentation; and the logical laws of the intellect must be obeyed to gain command over groups of facts.

As mental progress of all kinds is dependent upon a good memory, it is evident that the Discipline of the Mind should before all things take care that this fundamental power be strengthened to the utmost, and carefully preserved from deterioration. Nothing is more injurious to real acquisition than to exact from the mind more than its stage of development will justify, or to endeavour to assimilate faster than the nutritive forces permit. It will not be difficult to discover what the right pace of acquisition for any mind really is, if the learner's natural interests be carefully studied. It may be regarded as certain that, where there is great eagerness for any study, a strong memory will be an unfailing accompaniment; our proclivities point out pretty plainly what sort of food we shall most readily assimilate. When the interest is weak and the thoughts easily wander, the cost of acquisition will be considerable, and the wise teacher will be very careful how he endeavours to hasten the pace. The effect may be that the mind is actually thrown back in its course; it is filled with make-believe knowledge, which is retained until it has answered its purpose, say of some 'examination,' and then the seemingly fair fabric of acquired truths vanishes utterly, leaving barrenness and a sense of weariness behind it. Again, when the mind has attained a fair amount of abstract power, nothing is more detrimental to solid acquisition than too extensive reading. How common it is to find men and women who have read everything, and yet know nothing, who have not a general idea within their grasp, their intellectual power having been frittered away in the mere accumulation of facts, or who cannot bring their disorderly knowledge to converge upon any desired point.

We *enfeeble* the memory by trusting too largely to contiguous association, and neglecting logical concatenation. Whoever would have a powerful memory must reflect quite as much as observe. Less stress should also be laid on repetition than on discernment of right relations. A subject is generally more fully mastered by once seeing it in its proper proportions than by any number of re-readings. Nor must we despise the aid of the emotions in the cultivation of memory. If an enthusiasm can be aroused for a subject, there is little doubt that the result will be permanent, but if the intellect be flogged to its task, if the eye is straying wistfully after some other passionately desired object, progress will be insignificant.

A pictorial imagination is a good aid to memory, but an ill-balanced constructive imagination is a doubtful ally. By a constructive imagination is meant an imagination that decomposes its experiences and reconstructs them to subserve some particular feeling. Now memory is worthless that is not *faithful*, hence a

too exuberant fancy is antithetic to real acquisition. But an imagination which depicts objects to the mind as they really are is an invaluable aid, and may indeed become of supreme importance.

I do not intend hereby to undervalue the constructive imagination, but this is not the place to enlarge upon its part in the intellectual economy. Here the object is to show how the mind may become a mirror of reality, and how the images reflected on it may be saved from permanent destruction. Above all things, therefore, we have to guard against a *confused* memory, which is one of the most unmistakeable marks of an ill-trained mind. How difficult it is to obtain a clear and precise narrative of observed events! The narrator not unfrequently intermingles figments of his own unbridled imagination, and mixes up with the fragments of direct perception patches of other days' experiences or ill-grounded inferences. For a just memory, then, we require an habitual self-restraint, a habit of close observation, and an accurate classing of experiences with their allied forerunners. We stumble here upon a truth, of which the student of mind is never long without reminder, viz., how arbitrary are our classifications of the mental powers and functions, for we see plainly that a discussion of memory implicates observation, the imagination, the process of reasoning, even the emotions and the will.

IV.—THE PROCESSES OF REASONING.

A FAMILIAR contrast of common discourse is that of Thoughts and Things. The one term is usually taken as the summary of the contents of an individual consciousness excluded from the outer world; the other stands for a realm of existences equally secure from the invasion of spiritual forces. A very little consideration, however, shows the necessity of a revision of this time-honoured Dualism, the conventional distinctions failing, on closer inspection, to retain their sharpness of definition. 'Things' attentively regarded, appear tinged with Thought, and many so-called 'Thoughts' present themselves clad in material vestments. In other words, the Real and the Ideal are found interfused, and a subtle analysis is required to yield the contrasted elements in their strict purity. A *Perception* is such a case of fusion, and a glib Dogmatism may easily be made to stammer on being challenged to assign the phenomenon its place in either of two mutually exclusive spheres. For, if the swift answer be, 'The Thought-realm, of course,' the compliance with the further request for a brief description of the other half of the Universe of Common Sense may be awaited with interest. Or should a less confident election be, 'The province of Things,' the pitiless Sphynx of Speculation who devours all easy-

going Materialism will propound the puzzle, 'What is the matter of knowledge without the form of knowing?'

My purpose in these introductory remarks to the present section is not, however, to lead the reader into the hazy region of Metaphysics. My object was simply to induce a personal examination of those ever-recurring terms *real* and *ideal,* in order to prepare the student for a full recognition of the *psychological* truth that the larger part of all apparent knowledge is charged with ideal elements; that what seems immediate apprehension is (say) one-tenth immediate, but nine-tenths mediate or indirect. Waiving the metaphysical question whether there be any non-mental reality, it is quite certain that the larger part of what we at any time characterize as *perceived object* is matter of inference from certain indications directly intuited. To an ordinary being possessed of eyesight the world of immediate apprehension is prevailingly a world of coloured visible forms, the objects directly discerned being enriched by attributes which frequent association have shown to be more or less regular accompaniments of these ocular phenomena. To the man smitten with blindness, on the contrary, tactile impressions overbear all others, as the world in which he moves and has his being; and memories of colour and visible form invest the nucleus of palpable fact, giving rise to an aggregate which is only differenced from that entering into the consciousness of the normal human being by the transposed vividness of the components. The ordinary man talks in terms of vision. He 'sees' and 'intuites' with the inward eye as with the outward; the blind 'feels' and 'grasps' his truth. But whether normal or abnormal, the portion added by imagination is by far the larger ingredient in all perception of objects; and a thorough training of the mind has to commence the logical discipline at this first stage of converse with the outer world.

The errors we commit in obtaining a real knowledge of the world are chiefly errors of classification, or of mistaken identification. Accurate knowledge of an object implies adequate distinction of parts, and faithful assimilation of actually observed with identical remembered qualities. So far as the primary sense-endowment and the sufficient exercise of the senses are concerned, this subject has already been considered; but a careful training of the Senses only carries us a little way towards the goal of real knowledge, or a just apprehension of the relation of sense-experiences. The disciplined senses having given in their report, imagination at once essays to fill out the picture, and the understanding proceeds to assign the object its place in the system of known things. As, however, sense may be confused, so imagination may exaggerate, and the judgment may be disordered. The imagination, of which we here speak, is the train of ideas representing former sensations which have been previously associated with the sensations now present. These associated ideas are dragged into the forecourt of consciousness in conformity with the 'Law of Contiguity,' and their procession is so swift and unbidden that they seem like a portion of the actual sensation, it even requiring an effort to con-

vince ourselves that we do not actually see the solid block, or encounter the resistance of the impenetrable object. Equally prompt is the classifying function of the intellect. To speak indeed of this recognition of the object as something different from its mental construction verges almost on the tautologous. For in the very act of evoking sensations from the pit of memory we are pronouncing a tacit judgment that 'Here is an object possessed of marks presented by members of a certain class.' However, as this reference to a class is exceedingly important in the development of knowledge, it still seems desirable to consider this act of judgment as a distinct moment in the process of perception.

As then we recognise two psychological processes subsequent to the original impression, a discipline of the mental powers will both maintain their rights and prevent their usurpations. In the first place, we should be able to separate the contributions of imagination from the primary elements of sense. I believe I am correct in saying that this is a training of the powers almost entirely neglected in the education of the young. But it is difficult to conceive anything more important than the habit of distinguishing between what we directly observe and what we fancy we observe. Does it require so profound an acquaintance with psychology to make a child carefully distinguish the impressions he is receiving at any moment through eye or ear, and the qualities which his unreflective consciousness take to be equally revealed through the senses active at the moment, as (say) the distance, the hardness, and weight of a remote object?

There will be a further gain from this habit of analysis. It being once well understood that our perceptions are largely ideal, that is, are the joint product of actual sensations and remembered sensations, it will come to be admitted that the accretions of imagination may form so large a part of the whole, that the classifying of the object may more depend upon them than on the actual intuition. In the next place, then, the mind must be accustomed to control its identifications, must not yield to the first suggestions of the presentation, but must be alive to the possibility of bias through the circumstances of the environment, or the condition of the faculties at the time.

In affirming an object to be this or that, I perform the simplest act of reasoning. The ground of my affirmation is the resemblance between certain properties believed to be present, and similar properties manifested on former occasions. In truth, my inference is freighted with a double chance of error. I believe that the imagined attributes are really there on the strength of certain felt sensations; and I believe that the object thus *perceived* is one of a class of objects which I have already formed by previous acts of comparison, that is, is correctly conceived. A very slender thread of reality may bear a huge superstructure of belief. Of course the only final and sufficient test of the correctness of my inference is the elimination of the ideal elements by reducing the perception to sensation; but when such reduction is impossible (as in most cases it is), I must be content with guarding the process of inference by all the precautions logic is able to supply.

The perception is Sensation *plus* Idea, the conception is Idea pure and simple. Conceptions are the resembling constituents of a number of perceptions, which the mind has detached by a process called Abstraction, and which are made permanently available for comparison and inference by being associated with certain conventional signs or names. It is in the operation on these symbols of idealised perceptions that reasoning in the narrower sense consists. But before we wholly leave the ground of reality it will be advisable to pay some attention to a mode of inference which plays a very large part in our daily life.

There is an unconscious kind of reasoning where we conclude from one special case to another on the bare superficial resemblance of the facts or circumstances. There is more than contiguous association, for it is the similarity that arrests the attention, but the inference is not extended beyond the particular instance and the mind does not attempt to generalise its experience. It is not improbable that the brutes never get beyond this concrete reasoning, and certainly children and even adults of an unreflective turn of mind proceed largely upon these isolated identifications. But with the growth of the mind observations are consciously generalised, and in place of concluding to a particular conjunction on the strength of another similar conjunction, the intellect infers to a class of indefinite extent, although the number of observed instances be but a fragment of the whole. This operation is called Induction, and its importance is at once seen when we consider how very few assertions of a universal character we should be entitled to make if we had to wait until we had examined every actual example.

There is a kindred mode of inference where the resemblance is one of depth rather than of breadth and a conclusion is drawn on the strength of a certain number of common properties. We know (say) that two objects are alike up to a certain point, but are in the dark with regard to other agreements; one of the objects however possesses a further property. We then assume that the other object when better known will also be found to possess the same property. This kind of reasoning, which is known as Analogy, differs from Induction proper by the stress of the argument falling on the relative number of known and unknown properties in a very few objects; whereas in the latter case the inference is to the possession by a whole class of a particular attribute on the ground of its possession by a certain number of individuals.

Having arrived at a general truth by inferring that what is true of A and B and . . . . will be true of all objects that resemble A and B and . . . . in certain determinate characters, we may henceforth draw conclusions without further appeal to experience. Having affirmed possession of a property by class X (composed of objects known and unknown), we can predicate the possession of the same property by any object that falls within the description of the class. This is the species of reasoning termed Deduction, and though in this condensed statement the process may seem sufficiently evident, in reality its exercise often demands the highest tension of mind. It may be by a sudden perception of resemblance, a lightning flash of intellect defying all

rule, that a grand principle is seized in a host of particulars, but the application of this principle will often tax the severest powers of thought. The axioms or fundamental principles of the sciences are soon reached, but the thorough-going application of such principles may constitute the main body of the science. Thus, take two sciences at the opposite ends of the scale, the science of simple quantity, and of economic values. The theorems of discrete quantity in the science of mathematics can be enunciated and proved by the mathematician confined to his room with (say) a pencil and a few sheets of paper. With a few conventional symbols and strenuous thought, long trains of reasoning may be carried on by him—the last link in the chain as certain as the first. Again, the laws of human industry, the theorems of commercial exchange, and principles of distribution of wealth, may all be derived from a few familiar facts of human nature and a small number of fixed conditions of physical and mental life. And even the sciences which are most dependent on natural observation and experiment come with progress of time to be more largely deductive, and the development of rational conceptions will probably at some late stage of human history supersede induction by the aid of perception. As we see in Physics, not so long ago wholly experimental, entire branches are now cultivated mathematically or symbolically.

Science is but methodized common knowledge, and Reasoning is one and the same, whatever the sphere in which it is exercised. It is either good or bad, legitimate or illegitimate, according to the closeness of the resemblance of the attributes compared. The equivalence of geometrical figures is seen at a glance, and hence the inspection of a single diagram will supersede all further appeal to intuition, and we confidently universalize our theorem. Less exact will be our inference in the case of physical objects. A carefully performed experiment will compel conviction, but the question will always have to be raised anew: does the substance now before us perfectly resemble that on which we previously operated? When we come to the complexity of organic beings we are in more danger still of drawing inferences from superficial semblances —a trustworthy diagnosis often requires a very skilled physician.

Logic is the discipline of the rational power, and its importance in the higher education has always been recognised. Rather strangely, however, it has no place in the common school curriculum, an omission probably due to mistaken ideas as to its scope and nature. I can imagine only one ground on which this neglect might be attempted to be justified. It might be said that for the youthful mind the *matter* is more important than the *form* of knowledge, that the reasoning powers are best cultivated by working in the concrete, and that to abstract the process of reasoning itself, and make it an object of distinct consideration, would be as ill-advised as the teaching of grammar before practical familiarity with the modes of speech. There is truth in this, but it does not wholly hit the mark; for a logical discipline is practicable which is highly material, where examples drawn from the concrete are worked with, and the contact with reality is as close as in any study of mathematics or of polite literature.

For the teaching of logic in schools probably the usual order of treatment should be inverted, and an examination of fallacies form the first topic. A consideration of the methods actually employed in the branches of knowledge studied by the pupil would follow, and the doctrine of the syllogism might, perhaps, be profitably ignored. This may sound somewhat revolutionary, but the question of procedure is for the present of minor importance. When teachers in general come to undergo a logical training, prior to exercising their vocation, their estimate of the worth of the discipline may be expected to undergo great change. But, whatever the fate of logic may ultimately be as regards general education, there can be no doubt about its importance for the teacher personally.

There is no lack of text-books on logic, but, considering the lavish expenditure of energy in this direction, it is astonishing how few writers succeed in giving a clear notion of the province they undertake to teach. Old errors are propagated from treatise to treatise, and the really knotty points are slurred over as if the province of the science itself was as well defined as that of plane geometry. This confusion is doubtless due to the slavish adherence of the human mind to traditional precepts; accordingly when the expansion of the sciences called for the recognition of hitherto neglected modes of reasoning, the new methods were simply tacked on to the old, without any perception of incoherence or felt need of enlarging the list of fundamental principles.

The first essential for clearness is to distinguish between pure logic and real logic; that is, between those inferential processes which deal with given premisses, and those methods of arriving at truth which cannot be comprehended without a full understanding of the subject-matter. The former half of the science is closely analogous to algebra, and is occupied with the equivalence of convertible statements and the establishment of relations through the media of common terms. Although a seemingly elementary exercise, the practice of deriving equivalent truths from other truths is one which, if thoroughly familiar, would save a great deal that passes for very forcible reasoning.

The venerable type of Reasoning known as the Syllogism, where from two truths, of which one, at least, is universal, a third truth is derived, has of late in some quarters received scanty respect, and as a transcript of common argumentation undoubtedly has but little to say for itself; but, if treated as the formal aspect of a real Deduction, will never lose its importance.

The department of Pure, or Formal Logic, requires for its mastery a large practice of examples. If it be desirable to put the youthful intellect through an algebraic text-book, where the real value of the symbols employed is hardly ever explicitly considered, *à fortiori* one would think it should be well to see the laws of consistent thinking illustrated in the language of everyday life. But the student-preceptor, for his part, will not stop here. Having mastered the mysteries of the syllogism, the consideration of the nature of truth itself will be forced upon his mind, and he will be driven to take note of that all-important distinction between real and verbal truth, between truth of mere

thought and truth of fact. When the wide interval between these two kinds of truth has become clear to him, he will be prepared to pass on to the study of that other department, which I have designated Real Logic, where we seek to obtain an insight into those rules whereby we do not simply achieve a harmony with ourselves in the recesses of our private consciousness, but endeavour to secure an agreement with the thoughts of all other minds.

Objective, or Real Logic, presupposes that there are Laws of Nature—Uniformities of Succession and Coexistence; and the office of the science is to shape our belief in accordance therewith. Pure, or Formal Logic, is a science regulative of *Thinking*. Self-consistency is its end and aim, and error means overstepping the limitations and conditions inherent in the thinking faculty itself. It usually takes the form either of implicitly denying that a part of a part is a part of the whole, or of in effect asserting that the mind can unite contradictory attributes in an indivisible act of thought. Hence, with full consciousness, a fallacy of pure reasoning is impossible. Thinking signifies no other than direct or mediate comparison of ideas. But while we cannot combine or disjoin the materials of thought erroneously, except by inadvertence, it is quite possible to *believe*, mistakenly, even with the fullest development of self-consciousness. To regulate belief, there is no resource but to study the order of the world, and to submit to the teaching of Experience. Now, the rules of Material Logic are nothing but safeguards for the preservation of the mind's sanity in this perilous pursuit. In other words, it is pretty well equivalent to 'The Theory of Evidence.' To ascertain what sort and amount of evidence is sufficient for an assertion, when we are entitled to universalize a limited experience, to graduate ascent according to some more reliable principle than the strength of the impulse to credulity or incredulity itself—such, in brief, is the end of this truly difficult, but most necessary, discipline.

V.—IMAGINATION.

THE due control of Imagination is not the least difficult of educational problems. In no part of the mental economy is the golden mean so important to attain or so easy to miss. For, on the one hand, an active imagination is the main-spring of spiritual progress; on the other, an unseasonable and too luxurious fancy infallibly relaxes moral fibre, and dims the clear eye of Reason.

There is both truth and error in the vulgar opinion that Imagination is most brilliant in the infancy of the individual and the race. There is truth in the statement in so far as the mental picturing of individual wholes precedes the power of framing general conceptions. The logic, it has been said, of animals and of young children is that of Images; by which is meant that the earliest associations are formed between concrete wholes, as given in sensuous experience, and that these spontaneous associations dominate the spiritual life, until the individual has acquired the power of arbitrary selection and rejection among the constituents of consciousness. Perception, Imagination, Conception, are the three stages of conscious life. The first reaches back to the very dawn of animal existence, the second marks the 'higher' animal, the third is characteristic of Man. Now, as the order in which faculty has been evolved is an order determinative of its future manifestation, a scientific discipline should give heed to the hints of spontaneous growth, and further the unfolding of each power in its season.

But it will be well at once to rightly understand the force of this term 'Imagination,' for its ambiguous employment has been the source of much theoretical, if not practical, confusion. There are, indeed, two senses partially opposed to each other in which it is employed; it being equivalent either to the internal re-view of a concrete whole after the object has been withdrawn from direct perception, or to the re-arrangement of the elements of former experiences, with a view to the satisfaction of some particular emotion. Now it is when employed in the former sense that the assertion is correct that primitive peoples are highly imaginative, more imaginative even than the civilized moderns. And naturally so, for not having acquired the art of condensing a vast host of particulars into the unity of a general idea—an art requiring the aid of conventional symbols, as words or written signs—the retention of serviceable knowledge necessitated in early times the constant inner visualizing of the past, and a pictorial memory was essential even to self-preservation. The same rule of procedure obtains in the development of the young child. The will being yet non-existent or embryonic, the child can think only by media which require no effort for their production, and which are little else than the pale traces of its fuller life. Accordingly it is all-essential that the thought-images should be *faithful*, that is, that they should truly represent what erewhile was direct,

sensuous presentation. With many this power will need no assistance; the actual scenes will be so sharply photographed, as it were, upon the sensitive plate of the brain, that a very weak illumination of the interior light will enable the idea to be realized in almost its original brilliancy. In other cases, however, the faculty will have to be assisted; when either the representative power itself is fundamentally weak, or the internal stimuli to its exercise are few and of low intensity.

Now, when it is said that early nations are most imaginative, that the present age is unideal, that the fancy of children is superior to that of adults, the assertion can only be allowed to pass if held to mean, that the reproductive or pictorial imagination occupies a larger relative space in the life of certain periods than other modes of mental activity, and that as time goes on the 'Logic of Signs' comes to supersede the Logic of Sensuous Images. But it would be erroneous to use this language of that other species of Imagination, where the activity of the mind is occupied in framing conceptions which are not abstracted from the superficial aspects of the real world. In *this* sense savage races and youthful minds must, on the contrary, be pronounced highly unimaginative, for the want of this power is probably the main reason why the life of primitive generations revolves in so monotonous a round, and why the old head is not found on the young shoulders. For it is implied in this other and higher sense of imagination that the mind at a certain stage has a power not only of re-casting objects and scenes once beheld, but of penetrating beneath the surface of things, and of putting itself in the position of people whose modes of consciousness it has no means of directly gauging, which again requires a very large experience and a great diversity of social life.

We must, then, clearly distinguish these two varieties of the imaginative faculty, or we shall be led astray in our disciplinary methods, and endeavour to produce results which by the nature of the case are unattainable.

Having uttered this preliminary word of warning, however, I am by no means disposed to lay an extreme stress upon the distinction just drawn. The *reminiscent* and the *re-constructive* imagination are after all not easily divisible, and in the actual operations of consciousness it is the rule rather than the exception to find them in combination. Thus the shaping hand of Art interferes with the simple flow of spontaneous association, and a certain transposition of the details may falsify what seems the simple revival of the bygone. We see the germs of a tendency to transcend the actual in the spontaneous manifestation of the 'play-instinct.' Here the incidents which have excited wonder or admiration, but which, perhaps, have been no part of the child's own active life, are on the first opportunity enacted in the play-theatre, and that selectiveness which is characteristic of Art in all its forms is exhibited in the pigmy mimicry and dramatization of the infant's æsthetic world. An equally good example would be the strong tendency to 'day-dreaming' exhibited by many youthful minds, where, out of a very small stock of actual experiences, the mind goes on to construct

pictures and work up scenes more gorgeous than anything it is ever likely to behold with the bodily eye.

Now what must be said with regard to this splendid power in an educational point of view is this, that both forms of imagination, the reproductive and productive, are to be cultivated to the highest pitch, but to be kept to their places and held to do work which is profitable to the life of the human being *as a whole.* As the variety of actual experience open to the most favoured human being is after all insignificant compared with possible experience, a power of rapidly utilizing the few forms of actual experience vouchsafed it, to construct a world beyond the reach of personal perception, is the prime condition of intellectual growth. And the forms of existence being so varied, it is extremely improbable that a power of imagination in all directions will be possessed by any mind. There will always be some direction in which the ability to call up mental pictures will be weak. There is a spontaneous constructive power in all, which should be detected by the educator, desirous of estimating the bent of character with a view to proportioning discipline to power. Imagination as concrete memory runs in channels pleasing to the individual, and to see the drift of the current we must watch its subtle windings in recreative moods, when the mind is abandoned to itself, and no constraint is imposed from without. What dreams are to the individual desirous of self-knowledge are the trivial games and sports of fancy to the philosophic educator, and the possible successes and perils of the future may be read by a discerning eye in both.

There may be said here what admits of application to the whole range of mental culture, that not *repression* but *direction* is the *rôle* of the scientific educationist. The Imagination cannot be too active, if only it be an imagination which furthers the real work of life. The misfortune, however, is that many of its manifestations are hostile to the welfare of the individual and of society. There is no harm, nay, there may be much good, in stimulating the imagination of very young minds by stories of impossible triumphs over physical obstacles and of feats of unlimited personal prowess. Human nature speedily gravitates to a low estimate of its capacity, and needs to be roused by ideals of excellency rising above the actual environment. Fiction, if merely transcending not distorting the actual, whilst with some a spontaneously sought indulgence is for others a needed incentive. The fairy-tale and the romance are aids to culture which only a narrow-souled disciplinarian, confounding matter-of-fact truth with truth of life, will despise. Now Nature bends to the touch of mind, and man is bidden have courage in presence of the dark fate which seems at the first blush utterly to enfold him ; now the fairest hopes and most cherished desires of the heart attain a fruition which, if illusory, counts for much as a spur to strenuous exertion.

But the mind having had its dream of beauty, the careful trainer will see to it that the dream does not outlast the hour of repose, and will supply more practical material for the plastic energy of the working-day. The difference between the Imagination which enervates and unstrings the powers, and the Imagina-

tion that gives breadth and grasp of truth, lies in this, that the former is a mere revelling in the pleasing aspects of things superficial in obedience to the associative impulse alone, the latter is a synthesis born of deep-seated emotion, following on a genuine analysis. In the one case we are at the mercy of our fortuitous associations, the combinations are like dissolving views, gladdening for the moment, but becoming no part of our spiritual fabric; in the other they are extensions of common life, which we ourselves have helped to fashion. It is immaterial to what department of mental activity we turn, what the nature of the constructions may be, if they are to enrich us and to add to our power they must be the result of an *active* synthesis, they must be truly original in the sense of being the outcome of a vital will. This holds true even of Art strictly so called. No work of art has ever powerfully affected mankind where hard labour has not been spent in mastering the elements which enter into the composition, where there has not been a synthesis, the secret springs of which perhaps are hidden, but which has its source in the core of the artist's own soul. Where there is not this personal activity the production may be rich in conceits of fancy, but will leave the spectator unmoved. But the world of Imagination must of course not be limited to the artistic sphere; its exercise is just as much required, and just as evident, in the region of practice or in the realm of pure theory. A high constructive imagination, the power, that is, of rising out of the rut of routine, of bringing experience to bear upon novel situations, of devising new methods to cope with emergencies, is a faculty which has no slight scope for its exercise in every day affairs; and the *scientific* imagination may claim at least equality with that which forms the glory of the poet. Few ideas, indeed, are more mistaken, and may prove more mischievous, than the notion that Imagination is either a useless or a frivolous exercise of mind. Not useless, for it is the lack of it that condemns a mind or a nation to spiritual and material stagnation; frivolous only when divested of a high purpose.

It will be admitted that to enter into the thoughts and feelings of others is the first condition of effective social influence and real social harmony. Now this end can only be achieved by using the restricted range of feeling that falls to our own lot as a key to the inner life of other human beings. The education of the Imagination means employing the slender stock of personal experience to open up a new world of thought and feeling, in which the materials are essentially the same, but larger in amount and of greater complexity. Without committing ourselves to the assertion that the moral consciousness is wholly dependent upon sympathy, there is no disputing the fact that a highly-developed sympathy is an indispensable condition of its full unfolding. Now sympathy is the being affected by the joys and sorrows of others, as if they were our own. A low degree of it is doubtless possible as a mere consequence of unreasoning, gregarious action, but the strict parallelism between its elevation and the pitch of intellectual representation is sufficient evidence that these two are closely implicated. We are callous to others' feelings more often because we do not comprehend than

because we wilfully disregard them, and the needed remedy for misdoing is often not so much the wringing of the conscience as the quickening of the Imagination.

The fact that is common to all modes of Imagination is the elaboration of a vague and formless complex conception into the definiteness of a concrete intuition. The action itself is automatic; and the function of discipline is to release the springs of activity, or to lead the mind to assume an attitude favourable for being acted upon by the unconscious spiritual forces. Music pre-eminently possesses this power of releasing the force of Imagination, owing presumably to its capacity of agitating the emotional side of mind, which after all holds the reins of Imagination.

It is here maintained that this power is both inferior and superior to the discursive operations of intellect; inferior, inasmuch as by itself it never gives us the conception of Law, and the grasp of Natural Law is the indispensable condition for correct conduct. But it is also higher than the discursive understanding, inasmuch as the re-clothing of the abstractions of knowledge in the concrete is our nearest point of contact with the Creative Power. The luxuriant imagination of early Greek Art became in the time of Plato a reproach and a hindrance to moral progress, because the analysis of life, and not its embellishment, was required to afford principles of duty and order. But the philosophy of a Plato, though born of the inquisitive analysis of a Socrates, was assuredly the fruit of a high Imagination, that grasped a principle of moral order, which poetry had vainly striven to embody.

The application to the ordinary intelligence is not so far to seek as it might at first sight appear. It is generally recognised that the child-mind should gain its first truths through the medium of poetry and pleasing fancies. In those first years the brain is unequal to the strain of thinking by conceptions, and it needs a strong allurement to make it enter the field, often dreary enough, of intellectual labour. Then follows the dry abstract discipline of the schools; to be again succeeded in due course by the realization of the deeper thoughts hidden in Nature, and the attempt to frame a picture of the world and of human destiny. Knowledge, in short, begins and ends with the concrete and individual; the deeper intuition of the final stage being only possible after a certain familiarity with the unreal and abstract universal.

Here, more perhaps than in most other regions of mind, we must be prepared for great natural inequalities, as also the evil of injurious treatment may be more serious. The Imagination is a delicate instrument, easily blunted by harsh treatment, difficult to restore in good working order when grossly abused. The fruits of misdirection are mainly either a certain intellectual flabbiness and sentimentality, or a hard purblind matter-of-factness. The remedy for the former evil is to supply severer material, on which the eager fancy may be exercised, and to better purpose. To envisage geometrical relations in new aspects, to try to realize the internal movements of bodies, or to re-write thrilling chapters of history, will employ the imagina-

tive power without enfeebling it; and, on the other hand, where the ideal nature is very much below par, the sluggish imagination might usefully be jogged by leading the mind to travel with Voltaire's vivacious fancy to other worlds, where the conditions of existence, though fixed and stable enough in themselves, differ *toto cœlo* from our own. The severity of truth is not maintained by a low order of the conceptive faculty, rather by the utmost freedom from the thraldom of traditional associations; so that the mind may well compound its ideas *ad libitum*, taking care, however, that its *belief* be strictly limited by the range of verifiable experience. The truth of Fact, when the eye beholds it, is ever found stranger than Fiction.

VI.—THE WILL AND ITS TRAINING.

It is usual for psychologists, when elucidating the phenomena of mind, to reserve the subject of volition for the concluding portion of their inquiry. This general practice has perhaps given occasion to the belief, as it has not unfrequently been dictated by it, that we have in Will a faculty superposed on the other mental powers, a faculty even of a higher and quite special character. It should, however, be made clear that the only legitimate ground for the postponement of the topic of volition is one of convenience; that no question of principle is involved in such an arrangement; and that to introduce the question of *worth* is to import considerations alien to the scope of Psychology, as a Natural History of Mind. So injurious, however, has been the effect of this uniform practice, that I am not sure that a psychologist would not be rendering a valuable service to science who should break through this long-established custom, and *commence* his exposition with a thorough analysis of our voluntary activity. For indeed I hold it to be plain that will, or something akin to it, is inseparable from mind, and irresolvable into simpler elements. To feel, to think, and to will, are but different aspects of one conscious life. We cannot feel without distinguishing this present impression from its forerunner, without noting points of agreement and difference with a cluster of remembered antecedents, *i.e.*, feeling

is implicated with knowing, and feeling that should have no motive power is equally inconceivable; in other words, feeling, thinking, and willing are mutually involved.

Two errors must be signalized here in familiar theories of the Will. The one is, that we have in human volition something which has no prototype in animal will in general; the other that volition is derived from faculties yet more elementary, that it is the result of intellectual laws of association operating on random manifestations of mere animal life. I think there is good reason for denying both these suppositions. To take the last first. What coherent account can be rendered of the process indicated? It looks almost like a reflection of the old creation-hypothesis, the venerable notion that a Cosmos emerged from pre-existing Chaos, that by some mysterious magic a plenum of order was conjured out of a void of disorder. If there was no germ of order in the apparent disorder how could the world-order ever have been manifested? So in this theory of the will, which requires a straining towards an end as the offspring of an aimless spontaneity, what sort of thing must that spontaneity be which has no principle of determination at its core?

But we certainly do not get much more light when we are informed that human will is *sui generis*, that the actions of lower animals are phenomena of reflex action and instinct, are the manifestations, that is, of a physical mechanism, consciousness being either wholly absent or merely concomitant, the animal being a passive instrument used by an extraneous force.

Whence came this novel faculty that has no forerunner in the world of lower organization? And what is the proof that there is this gulf between the minds of brute and man? Not only is there no proof, but all the evidence tends the other way. Comparison of the ways of animals with the ways of men shows that all the psychical functions exhibited by man are present in the animal world, though in simpler form, even at the lowest level of animal existence. And careful criticism also pronounces the wit of man unequal to unravelling the last skein of consciousness, and while acknowledging the ingenuity which essays to display the components of complex modes of will, leaves the Will's own essence as an ultimate fact, coeval with the origin of mental life itself.

The task left to the psychologist, then, is to show how, given the ability to relate and react upon impressions, the thoughts and emotions which make up the content of consciousness are slowly elaborated; and given a selective power, how the organism can turn this material to account for the furtherance of its own and others' well-being.

The forces impelling to voluntary action are called motives; wherever no motive is discernible or conceivable we refuse to characterise the action as voluntary. A true motive is a feeling with a pleasurable or painful quality. The law of the will is said to be the preference of what the individual mind takes to be maximum pleasure, aversion to what is regarded as maximum pain. The case is rarely so simple as that a single motive, that is, a single pleasure or pain, is present to the mind. Usually there are several such

pleasures and pains competing for influence, and hence the act will frequently be no index to the amount of mental work which has been previously gone through. It may even happen that the resultant of these forces is total inactivity, in which case the anticipated pleasure must have been balanced by the idea of sequent pains. In such a case this alternative presentment of pleasing and painful pictures appears in consciousness as a conflict of opposing powers, and the adoption of the course actually taken is described as an act of *choice.* Now when the forces have been few or all in the same direction, or there is no impediment to action, attention is not called to the fact of a personal reaction on the feelings. It is only where the resistance encountered is considerable, where there has been much 'deliberation,' and consequent 'resolution,' that the circumstance is noted that we take part in the proceedings as persons, and hence effort comes to be considered a characteristic mark of will. But the difference in the two cases is not one of degree, but only of kind. What difference can it make in principle whether the effort is so slight as to be evanescent, or whether the antagonistic forces are so numerous as to give rise to a considerable sense of struggle? The complication of the motives can have nothing to do with the question whether the action be voluntary or involuntary. An action is voluntary when our spiritual nature reacts upon the feelings which, either in fact or in idea, affect the mind. We must take care, however, not to be the slaves of our own instrument, language. The person which embodies the willing power, as we term it, is the formed character of the man—that evolved spiritual organism which is substantially transmitted, which is only so mysterious in its mode of operation because it embodies the tendencies of countless generations of active intelligence. To predict the probable conduct, it is necessary that we have not only a full knowledge of the motives actually present, but large acquaintance with the character; for the conduct will always be the resultant of these two conditions. It is not to be expected that our inferences will be correct when we ignore either factor, least of all when, as is frequently done, we look only at the motive, and disregard the sort of mind brought under its influence.

Much of the war of words that has been waged in respect of this question of the nature and extent of Will would have been rendered unnecessary, if it had been always understood that pleasure and pain are, in strict language, not 'motives' at all, except in relation to a character. Exaggerated stress laid upon the external factor, the represented pleasure and pain, has led to human beings being considered the creatures of circumstance; an excessive attention to the internal factor has given rise to the idea of a metempirical entity, playing at times the part of a *deus ex machina* by interfering with the psychical mechanism, a pure potency whose reality and actuality are far from being synonymous. It is here maintained that it is impossible (except logically) to separate will and manifestation of will, and that what we have to consider is the quite definite relation of the active side of mind to feeling. Frequently, it must be said, the feelings are of a very subtle and concealed kind, so that they do not form portions of distinct

consciousness, and somewhat of the mystery that has hung round these voluntary processes is doubtless due to this circumstance; for it is by no means always possible to peer into the dark laboratory where the forces of the mind are elaborating in silence their marvellous products. But however obscure the subject always in detail remains, we know sufficient of the process now to clearly formulate the problem, and can always translate the fictitious abstractions of the schools into the language of concrete consciousness. We shall not be disturbed by associations of a metaphysical nature that have gathered round such a term as that of 'choice,' for instance. We shall regard it as a short expression for the fact that any particular resolution is chiefly dependent upon the internal factor, the spiritual fabric, which, although known in the main, will, in large part, always be unknown until revealed at the moment of action. The *selection* is due to that which is somewhat vaguely styled 'the character,' which in part resembles, and in part is unlike, that of other individuals. This character is liable to modification, and hence the 'choice' may vary with the very same persons with the very same motives, for between the two occasions of choosing, the individual may have been submitted to influences which render the situation a different one. Room is therefore found at this point for the part of the educator, and we accordingly pass to the consideration of the Training of the Will.

Let the nature of the problem be quite understood. Given human minds with certain susceptibilities and propensities, how to induce the adoption of a particular line of conduct. The methods will be different to some extent according to the numbers attempted to be influenced. An orator in dealing with a vast multitude can only appeal to the broadest principles of human nature. He must consider the multitude before him as a single plain individual, a being simplified to the mental and moral structure possessed by the average of mankind, and therefore not below the level of the time or much above it. In the same way the disciplinarian in dealing with a large body of youths. Average juvenile nature must be assumed, and the discipline must be calculated for the average. But it is the same thing whether we deal with the average of a large number or the mean stratum of the nature of any one individual; and hence we may assume in all discipline of the will that certain motives will influence all alike. The *appetites* are common to all. The instinctive cravings which have reference to the life-preserving functions can be taken for granted as uniformly strong. Now the satisfaction of these primordial cravings up to a certain limit is essential for healthy existence, and the only danger here is of undue interference. As a rule, it may be taken for granted that the child knows its own wants best when these wants have reference to self-preservation. But there is of course a dubious margin; and for this reason, that a gratified appetite is wont to make its appearance hereafter in the guise of desire. A desire is a state of mind wherein we are subject to the fascination of some pleasure, now ideal, whose sweetness we have already tasted in the reality. Now as the gratification of all appetites is attended with pleasure, it is quite possible for the pleasure to become

a distinct object to the mind, and for the craving to arise when there is no real need of the system. Besides the appetites, whose gratification is essential for healthy existence, there are secondary desires due to a certain way of living, a certain social environment, to anything, in short, which continued for a sufficient time comes to be craved so ardently that its absence is keenly felt. It is not always, indeed, easy to discriminate, especially in an advanced stage of civilization, between those cravings which are of the essence, as one might say, of our being, and those recurring needs which have come to be a part of our ordinary life-routine. Directly, however, pleasure becomes an object for its own sake, we get an effective leverage for controlling the will. But the difficulty of the case is this, that, save in the case of the absolute needs of the constitution, the susceptibility varies so much that a very different discipline is necessary in some cases than in others. Next to primary appetite I think one might say that *sociality* is the strongest of all cravings. Of all modes of punishment at least absolute solitary confinement has always been recognised as the most painful, and resort to even a small measure of it should be very sparingly exercised. As we must not yet enter, however, upon the general subject of moral education, but confine ourselves to the psychology of the will, we must be content with the foregoing illustrations of the endeavour to forge an association between a certain course of conduct and consequent pain or pleasure. Of the two species of association the latter is by far the more desirable, but it cannot be said that it is the more forcible. There is no mind, indeed, so fortunate in its constitution as to be guided by the lure of pleasure alone, and hence the due application of pain becomes the gravest of problems. There is, indeed, a self-rectifying power in both disciplines, for pleasure grasped in excess passes into pain, and pain applied beyond a certain point renders the nature obtuse and insensitive.

The end to be achieved in the discipline of the will is to raise a pleasure or pain *in idea* to the intensity of a pain or pleasure in reality, to make the individual act as he would act if the solicitation were there in all the urgency of a present feeling. It will be obvious that the most imaginative person has the best chance of conforming his conduct aright without any extraneous aid in the shape of rewards and punishments. And undoubtedly it is so; only imagination may be strong or weak in relation to quite different things. But even so guarded, the remark will not be true unless the mental representation be attended by the conviction of certain realization. Now there is not always this co-existence of a vivid imagination and belief. We may very vividly depict all the harmful consequences of some indulgence, and yet have a secret hope that such consequences may be in some way averted. It is the characteristic of a normal mind to adjust its action to the probabilities of the prospective pains and pleasures. It is a mark of an unsound mind to see the better, and yet follow the worse, to be so possessed by an idea as to seek fruition utterly regardless of consequences. When action is not capable of being proportioned to motive the will is paralyzed, and what training is possible must have for object the restoration

of the physical or mental balance. But, if there be no derangement of the volitional mechanism, the processes available for attaining that self-mastery which lies at the foundation of all progress are the following :—

As thoughts and feelings come and go according to purely natural law, it is frequently necessary to interfere with the current succession, and to turn into other channels, or wholly to subdue, the energy of emotion. To accomplish these ends it is indispensable to acquire a habit of attention. We must gain the power of singling out certain less conspicuous portions of the train of thoughts, letting all else go, and dwelling upon the chosen objects until they occupy the whole field of consciousness. The lesson may be begun in the simplest act of observation, where the natural tendency to dwell on more striking objects is thwarted, and the gaze is concentrated on uninteresting details. So important is the acquisition of this power in the development of the will, that it is often the only weapon at our disposal for gaining the victory in the warfare of the inner life. The importance of it may be imagined when we reflect that the intellectual trains are always at the mercy of chance suggestions, that there is no guarantee for correct associations being formed in the haphazard conjunctions of ordinary experience. The firmest associations may in this way get formed before any selective power has been exercised.

The emotions exert their influence either directly in the shape of powerful, spontaneous impulses, or indirectly through association with some special ideas. The waves of feeling, never wholly insignificant, sometimes gather an unexpected strength, the causes being wholly unconscious, or an idea may leap into life in consequence of some casual suggestion. To subdue our emotions directly by sheer force of will is impossible. The most effective course is to play one off against another. It is, indeed, a misuse of language to describe will as a source of energy; the office of the will is directive. The energy of the system is supplied by feeling. The control of any feeling, then, is either by releasing the springs of a contrary feeling, as when hate is quenched by love, or by diverting the emotional stream, by fixing the attention on thoughts that are linked with other more desirable feelings. The difference between the man of weak and of strong will lies in this, that the former allows himself to be at the mercy of the passing thought or transient emotion; the latter allows the thought of injurious consequences to act as a new motive, in addition to the present impelling forces. We have, at opposite ends of the volitional scale, the amiable yielding temperament, which gives up at the first assault, whose actions cannot be calculated upon, and the hard, unbending character to which the bare love of power ranks as sole motive. Where the one is self-destructive, by allowing its strength to be undermined, the other crushes, not controls the sensuous nature, and seals up the fountains of emotion. The desirable temperament is flexible without being weakly concessive, attains its ends with a due regard to changing circumstances. It requires a nice tact to know when to yield to the pressure of feeling, when to call up the opposing force of a permanent ideal. Man is not to be the sport of blind

nature, but to be a law to himself. He has to rise out of the Fate of Nature, but in obedience to certain norms that are impersonal, which are valid not only for himself, but for all men. Self-control does not mean self-assertion. It means giving that weight to the various impulses which is their due as part of a well-ordered system.

To return, then, to our method of self-control. Its conditions and limits are well-defined. As volition means action determined by feeling (the only motor-feelings being pleasures and pains), a rightly-directed volition signifies action not according to what we do feel, but according to what we should feel. Any instance of acquired self-command will illustrate the process. To be simply borne along by an impulse may be highly pleasurable, to follow some favourite pursuit, or read some enticing book (the opening for the training of the youthful will is usually afforded by such an instance); but a foresight of remote consequences reveals the greater worth of another course of conduct, for the moment painful, but productive of a more lasting pleasure, say the mastering a scientific treatise. Only a highly-developed intelligence can be expected to vividly realize the advantages of such a course of action, and the strength of the motive-power must be increased by the coercive discipline of pain for neglect, that is by making the following the present impulse less pleasurable than performance of the prescribed task. But no educator will be satisfied by a merely coercive policy. Enforced obedience may engender habit, but habit thus produced is apt to degenerate into slavery. The last stage of the educational process consists in the calling into play one supreme motive, *pleasure in the exercise of original power.* When an end aimed at is accepted as our own end, then for the first time is the action rightly described as freely chosen or pre-eminently voluntary.

In the education of the will two things are especially to be kept in view. The one is, that progress must at first be very gradual. The control of thought, the direction of feeling, cannot proceed beyond a certain pace. To ask for much self-denial at the outset is to be utterly unreasonable. The other is, that each success is to be regarded as a *plus*, every failure as a *minus* quantity. Each victory over present inclination for the sake of a more distant good makes, quite independently of the law of habit, the chance of a second victory easier by giving a new motive, viz., the memory of a victory achieved, and therefore adds a fresh stimulus to exertion. On the other hand the memory of failure is an obstructive force ; the second attempt will be more arduous than the first, the natural inertia of the system being reinforced by a certain amount of belief that voluntary effort itself is vain. Hence the egregious folly of requiring efforts beyond the individual strength. Unless there is a probable certainty of success the will should not be called upon ; an easier task must first be attempted; the inexperienced warrior must win his spurs on a less dangerous field.

VII.—THE FORMATION OF HABITS AND CHARACTER.

THE whole process of Education may be described as a formation of habits, for the ideal of the Educator is a spiritual organism, whose operations are spontaneous without being irregular, free from hesitation and doubt, but correctly responsive to every call. The scene of conscious effort is for ever shifting, and we pass on to fresh conquests, trusting to the self-sustaining power of the system to keep our action true, even when in strictest parlance we know not what we do. The supreme office of volition, indeed, is to bring about its own effacement; for nothing is really well done, no virtue is ever really such, until the act has become automatic, the excellence second nature. We take infinite pains at first to bring all our energies to bear upon some special task, and, as the effort is prolonged and renewed, gradually experience a sense of diminished strain, until at last we find ourselves in the possession of powers which once seemed utterly beyond our wildest hopes. These remarks apply to every region of mind and every form of activity. The method by which we obtain the simplest manual skill is the same as that whereby the good citizen is fashioned; and here as there the training is only finished when the bare idea of what is to be done is instantly followed by the deed itself. The labour of acquisition is undoubtedly vastly greater in some cases than in others, but if there be only the rudiments of a faculty to start with, no attainment is utterly to be despaired of.

Dr. Reid wrote: 'No man can show a reason why our doing a thing frequently should produce either facility or inclination to do it. The fact is so notorious, and so constantly in our eye, that we are apt to think no reason should be sought for it, any more than why the sun shines. But there must be a cause of the sun's shining, and there must be a cause of the power of habit.' It is strange for us to read such a passage now. What seemed to Reid so mysterious as to be placed by him on a par with instinct cannot be said any longer to baffle explanation. We find a quite sufficient reason for the force of habit in the capacity of nervous matter to retain the results of frequent stimulation in structural modifications, the extreme form of which is subjectively familiar to us as indissoluble or inseparable Association. The effect of repeated exercise of the same kind is to groove channels, or form connections in nervous matter, which render the passage of nerve force more easy in future, and thus to minimise that feeling of resistance which we know as effort. That 'inclination' should go along with 'facility' is also patent, for success is always the parent of fresh desire, and diminished obstruction to the realization of our aims is attended with a sense of satisfaction which reacts upon the motor centres.

The establishment of a Habit is a great mental and moral economy. Considering the number of things hourly to be done, we should come but badly off if we were not able to relegate the performance of numerous actions to unconscious centres, if we could not bring the whole force of consciousness to bear upon each novel task. We ought not to fear the reproach of becoming 'machines.' It is the very best thing that can happen to us. The more mental machinery the larger our sphere of action, the greater our spiritual possibilities. This is not less true in the moral than in the intellectual region. This much indeed is true—virtues are not to be counted off on the fingers like so many books of Euclid, which may be mastered in the few years of school discipline, and the character pronounced complete. Special moral habits undoubtedly may be acquired, and evil tendencies eradicated by careful drill, but the automatism of the moral nature is pervasive, and a character that can be partitioned into its ethical qualities is not usually considered an exalted one. But whilst guarding against the vulgar confusion of propriety with ethical worth, not a word must be said against the gain of moral machinery. To *be* good requires truly a vast preliminary amount of *doing* good, and the struggles are usually attended with distress and intense self-consciousness. It would be, however, to miss the beauty of the ethical life to represent the face of Duty as troubled and anxious to the very last. The highest virtue is *unconscious* virtue; and a nature conscious of its effort and sacrifice is not only repellent, but imperfectly moral.

In entering on the subject of Moral Education in the detail, however, we pass into a region where the difficulties of the practical trainer thicken fast. It would be hard to say in which phase of mind the diversity is greater, in intellectual ability or moral disposition; but it is certain where guidance is easier. It may require very thorough comprehension of the laws of mental growth nicely to adjust the burden to the back in the varied field of intellectual acquisition; but the profoundest psychology will hardly by itself afford the insight needed for coping with the tendencies of the moral nature. There are several reasons for this. In the first place it cannot be said that Theory is here far ahead of Practice. Both Theory and Practice are in a very backward state. Although people have been disputing and preaching about Right and Wrong, and the Conduct of Life, for an indefinite period, it cannot be said that Moral Science is anything like as advanced as Physical and Intellectual Science. Again, although the Art of Instruction is still far from having reached a perfect form, the pains that have been expended upon it have certainly been far greater than those expended on Moral Discipline. This is a natural consequence of the circumstance that tutors rarely possess the entire direction of youth, their office usually being restricted to the culture of the intellect; and *moral* education requires constant drill or a watchful eye, both in and out of season. And even where the opportunity is afforded, the order of mind required for dealing with the moral nature is so far higher than that needed for merely imparting knowledge that, with the limited, not to say low, estimate of the schoolmaster's function which has

prevailed hitherto, it would be surprising if the traditional methods possessed any considerable worth. To discipline the emotions and the wills of others effectually requires not merely extraordinary discernment, and the power of re-living the life of youth, but also a rare disinterestedness, which can refrain from giving effect to personal likes and dislikes, and maintain the attitude of an impartial judge and guide. So much depending on the teacher's personal qualities, it is to be feared that rules dealing with the formation of character may degenerate into lifeless precepts, and no good end be served by the endeavour to supply them.

If principles are to be laid down they must be of the broadest possible kind, and the application of them when assented to must be as flexible as possible. Now, there is one broad principle coming to be recognised in moral education, and which it is to be hoped will never be lost sight of again, viz., that the discipline must be natural and not artificial, grounded in relations that are necessary and not arbitrary. Although, thus tersely expressed, the principle may not be very apparent, a slight paraphrase will show that we are going to the root of a very important subject. I postulate that education is to be thoroughly *real.* I assume that the business of the teacher is to fit the pupil to be a capable and worthy being *in this human life.* Considering the wide differences of opinion on topics that are subsumed under the term Religion or Theology, in dealing with education as a *science* no other ground than this is permissible. If the public teacher be once allowed to overstep the limits of the *real* world there is no possibility of coming to any general agreement on the subject of education. It is the business of the schoolmaster to see that the child entrusted to him assimulates *positive* knowledge, and is rendered capable of being an efficient member of a society whose existence is beyond dispute. Practically, he has to be made a worthy citizen, fitted to add to the world's wealth, and to contribute his mite to further the welfare and happiness of humanity. What is the corollary from this? That those things must be regarded as virtues which tend to accomplish these ends, those things must be held to be vices which are likely to be impediments to the same. And the kind of discipline is strictly conditioned by these considerations. As the school is only a preparation for a *real* world, so the *kind* of discipline which will there hold him to his duty should be here employed in miniature. The good and ill fortune he will there encounter will be (so far as personal conduct is concerned with it) the infallible consequence of his conduct; so in the school, cause and effect must be equally necessary, if the school is to be, as it should be, a place of rehearsal, or a drill-ground.

There are two classes of motives which must be relied on both here and there, the self-regarding and the extra-regarding, prudence and sympathy. The system of duty embraces both, for though neither *quâ* feeling is moral, yet as directed to the end of universal well-being, they are both elevated to the rank of the moral motives proper. It is not true, I think, as is commonly supposed, that self-love is something more deep-seated and primordial in our nature than sym-

pathy. On such an assumption is based the idea that we must be content in juvenile training to make the earliest appeal to self-interest, and reserve appeals to disinterestedness to a more advanced stage of rationality. On the contrary, the right training should endeavour from the first to establish an equipoise between the egoistic and altruistic impulses, for which a basis is given in the essential sociality of human nature. It might even be maintained that a keen eye for our own interests is a late development, at least in a large number of instances. The utter disregard of personal well-being, the generosity which oversteps rational bounds, are characteristic of an early period of life, and often as much need the trainer's care in the way of pruning as the feeling for others' good requires prompting. What is true, however, is that both self-love and love of others are at first awakened through vivid sensation and present emotion; and only gradually are called into activity through ideal suggestion. The child cannot be affected by what is remote, by influences which require a high pitch of imagination or which entail a vast series of not very evident consequences. This is why a corrective discipline must operate by influences which can be immediately felt, by speedy gain and retribution. But none the less must such rewards and punishments be analogous to those which fall to the lot of the mature mind, if this discipline is to have a permanent value. In the life of the world the good and evil effects of conduct are often brought home very indirectly. Retribution is often long delayed, and the path to permanent success is wearisome to a degree. I take it that a true school discipline should prepare the mind for this, by making the consequences of conduct more and more representative, in conformity with the mental development. Certain and sure, however, the consequences should always be. The whole value of the moral education of the school is that it is a genuine economy, that it saves the wasteful experience of after life. The unreflective mind is apt to question the universality of the Law of Causation, and, long after it is convinced that Nature knows no exceptions, to believe that in the human social world reaping is not united by a necessary tie to sowing. It imagines that there are short cuts to affluence, that there are other ways than the path of duty to true glory, that it is possible to outstrip competitors by well-managed deception, and yet not suffer for it. And, owing to the limitation of human vision, it is undoubtedly true that lucky strokes of successful knavery are sometimes made. But then it is as at a public gaming-table. Lucky throws are possible; but the chances are heavily in favour of the 'bank.' Seeing the mischief that is often done by 'pious frauds,' it might be well to lay before the young mind the true state of the case; to point out the divergence of the real in human life from the ideal; for veracity, like honesty, is in the long run the best policy. But, although no concealment in the matter is desirable, any harm that might conceivably flow from such a revelation should be early neutralized by a formed habit—habit which has been engrained by the exceptionless play of cause and effect. The child should always *atone* for its misdeeds, should always reap the reward of its diligence and good behaviour.

The breath of favour and disfavour must be immediately felt, and must be wafted with strict impartiality. As is sown so should be reaped. Nothing is so bewildering to a growing mind as a teacher's capriciousness, a deviation from a strict rule of justice. Teachers cannot be free from unforced partialities; loveable natures must exercise their subtle spell, and odious dispositions secretly repel; but in the pupil's presence all scholars must be equal, and like causes must be followed by like effects, like good or evil deserts be attended by like rewards and punishments. As hinted above this is not strictly in accordance with the experience of mature life, but it is in accordance with the ideal of that life, and one aspect of civilization is an approximation to such a state of things. The growth of knowledge and of the social feeling is attended with a lessening of caprice.

And so in school training, caprice must vanish—caprice in the apportioning of rewards and punishments, caprice in the kind of rewards and punishments. The former is self-evident; the latter has never been seen so clearly. The reason is plain. The true object of punishment is only gradually dawning upon the general mind. The pristine theory of punishment, which still survives, is that it is an infliction of pain, as penance for the infringement of rights or for contempt of authority, the requital of an affront to the sovereign majesty of either the civil government or the individual. The satisfaction of the feelings of the injured or insulted party is considered the end of the infliction; and, as we know, in rude ages these feelings were estimated according to the social rank of the injured individual, the penalty to be paid for insult to a king, or the crime of high treason, being indefinitely greater than that paid for a similar offence to a more lowly member of the community. This theory may now be pronounced obsolete (not so the practice founded upon it); and it is held that the only legitimate ground of punishment is the prevention of a repetition of the offence, and the only allowable description of punishment that which is reformatory of the criminal. Now, it is found by experience that punishment which has no relation to the offence—that plays the part of a sort of hopeless treadmill, like the aimless labour of the fabled Sisyphus—is simply pain-inflicting, and not reformatory; nay, its effect is frequently indurating, strengthening the evil disposition, and producing stoical indifference. The stock methods of the scholastic Rhadamanthus are flogging, and 'impositions,' or the interminable writing out or committing to memory of the pages of some arbitrarily-selected author, usually a fine classic —to such base uses is the fruit of the world's wisdom often put! As regards flogging, not a word is to be said in its favour. Sensitive natures are crushed by it; in coarser natures a spirit of defiance is aroused, and the embryonic conception of moral law thoroughly materialized. In neither case is there that fruit which is desired, a security for future better doing. The dreary imposition of tasks, which have no aim save that of exacting a pound of weary flesh, is probably doomed to even speedier abandonment.

But, although the folly of these rough-and-ready methods is coming to be seen, there is not always the perception of a truer course. It is not certain that the

trainer will obtain a clear insight of this more excellent way. This, however, can be no other than that which is truly reformatory of the disposition which has been shown by the faulty conduct to be perverted. What is required is a readiness to act in a certain manner, a formed habit; and this is only to be brought about by associating the action with its natural consequences, not by so many slaps every time the delinquent is caught. The proper punishment for slothfulness or procrastination is loss of valued opportunity; for theft, restitution and loss of trust; for wanton aggression, restraint of liberty; for leze majesty, or contempt of the constituted authorities, social outlawry,—the misery of loneliness through being shunned by the community. When the punishment is natural and not arbitrary the dangerous spirit of rebellion and defiance is cowed. The prophecy is then literally fulfilled that as we mete so is it measured to us; and the delinquent does not feel that he is under the heel of a powerful tyrant, at whose mercy he is, simply because he is weak; but the judge who pronounces the sentence is impersonal, and the decree is not murmured at, because it is felt to be entirely just.

It is by the discipline of the natural consequences of action that the true conscience is formed. My readers will know that in the philosophy of conduct no subject has been more debated than the nature of conscience; it being held to be now simple and primitive, now complex and derived, now progressive and uncertain, now immutable and clear. But it is still held by all parties that it is a universal and inalienable possession, and that it should possess a singular authority. It would be beside my present mark to dilate upon the subject; I will only observe that the universality of 'conscience' points to its being a formal rather than a material principle; that is to say, the actions with which it deals are indifferent to it. As, like the sovereign, it is above the law, it knows nothing of the strifes of parties and particular legislation. Whatever be the accepted moral code of the time and place, its verdict is always the same—*infringement of the law is wrong*, and is felt to be deserving of punishment, punishment which in memory becomes remorse. This being its nature, however, the immense importance of a worthy code can hardly be exaggerated. In the period of pupilage, when ordinances are unwise one of two evils results; either the reason of the pupil rises above the law, and the authority of the law-giver is impugned, or the moral sense is perverted. But these consequences are only too frequent in ordinary school legislation; it is well if the lesser of the two evils, the impugned authority of the law-maker, be the sole mischief.

The substance of morality must be strictly human. By that I mean that the worth of actions must be determined by the consequences to man himself. No other standard is free from all doubtful disputations, and beyond the canker of subtle disbelief. Personal and social well-being is the end and aim of all law, and to prescribe duties out of all relation to this end, or to frame a list of 'sins' which cannot be brought home to the natural sense, is to set about forming a character indeed, but a character which may as easily prove a curse as a blessing. The discipline of the

mind, at any rate, finds its terminus here. Man, as child of Nature, the latest birth of time, standing on the wrecks of ages, surveys the lower life from which he springs, and forecasts a future beyond his own little span; revelling, perchance, in dreams of worlds unlit by sun or star; but however lofty his imagination, however penetrating his understanding, his rule of conduct can have no wider scope than the welfare of his peers, the beings to whom he owes all he knows, and whose joys and sorrows form the sunshine and shade of his inner life.